

Monte:

Brent Rauhut Engineering Inc.

AR SPS-9A



30 September 1997

JM

Mr. Aramis Lopez
Pavement Performance Division - LTPP
Federal Highway Administration
Turner-Fairbanks Highway Research Center
6300 Georgetown Pike, Room F-215
McLean, Virginia 22101

Subject: Final Report - Construction of SPS-9A Project (0509) on US-65 Southbound in Pulaski County, Arkansas

Dear Aramis,

Enclosed is the Final Report for the Specific Pavement Studies (SPS-9A) project on US-65 southbound in Pulaski County, Arkansas. This report documents the construction of the SUPERPAVE™ Asphalt Binder Study test sections at this location, as well as the monitoring of the project to date.

Please feel free to contact me should you have any questions or comments regarding any of the information included in this report.

Sincerely,

J. M. Johnson
for

Jerry F. Daleiden, P.E.
Project Engineer, SRCO

JFD:dmj

Enclosure: As stated.

c.w/Enc: Jim Gee, ARSHTD
Boon Thian, ARSHTD
Zane Dunnam, SRCO

Please make 2 copies
Send 1 to Shiraz
Send 1 to PCS/LAW
File Original

Done 10.21.97

FINAL REPORT

**SPS-9A PROJECT 0509:
SUPERPAVE™ ASPHALT
BINDER STUDY
US-65, SOUTHBOUND
PULASKI COUNTY, ARKANSAS**

FHWA/LTPP

SOUTHERN REGION COORDINATION OFFICE

September 1997



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FINAL REPORT

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FINAL REPORT - SPS-9A PROJECT 0509

SUPERPAVE™ ASPHALT BINDER STUDY US-65, SOUTHBOUND PULASKI COUNTY, ARKANSAS

INTRODUCTION

As part of the Strategic Highway Research Program's (SHRP) Long Term Pavement Performance (LTPP) Studies, sections of highway are being selected to apply very specific treatments to study various facets of construction (both new and rehabilitation). These projects are referred to as Specific Pavement Studies (SPS). This report signifies the inclusion and construction of an SPS-9A SUPERPAVE™ Asphalt Binder experiment located on US-65 in Pulaski County, Arkansas.

SPS-9A General Experiment Design

The experiment is intended to validate the SHRP binder specifications by allowing a direct comparison between the asphalt mixtures designed using state agency procedures and the newly developed SHRP procedures. The SPS-9A experiment will also provide the initial data for use in refining the mixture performance models also developed as part of the SHRP research. The key elements of the SUPERPAVE™ design process are shown in table 1.

Table 1. Key elements of the SUPERPAVE™ design process.

Address Reduction and Control of:

- Permanent deformation
- Fatigue cracking
- Low temperature cracking

Develop Mixture Having Sufficient/Satisfactory:

- Asphalt binder
- Voids
- Workability
- Performance characteristics

Basis of Design

- Volumetric principles
- Evaluation of engineering properties of trial mixes using increasing levels of testing depending upon the reliability (traffic level) desired
- Three levels of design
 - ▲ Level 1 - Low traffic (lower reliability)
 - ▲ Level 2 - Medium traffic (better reliability)
 - ▲ Level 3 - High traffic (best reliability)
- SHRP gyratory used for laboratory compaction

The SUPERPAVE™ mix design system is being validated using a three-stage process. The first stage validation, conducted by SHRP, confirmed that variation of asphalt binder properties identified as probable, significant determinates of pavement performance caused reasonable, meaningful changes in the relevant performance characteristics of asphalt-aggregate mixtures. This was accomplished by using specifically designed accelerated laboratory tests and existing accelerated load facilities.

The second stage validation, also conducted under SHRP, established the degree of correlation between the asphalt binder properties shown to significantly affect performance-related characteristics of asphalt-aggregate mixtures and relevant field pavement performance parameters. This process provided data to specification limits for the relevant properties selected to control performance. This effort relied heavily on sampling and testing the LTPP General Pavement Studies (GPS) sections.

Although GPS sections provided valuable and timely information, controlled Specific Pavement Studies of newly constructed and reconstructed or rehabilitated (resurfaced) pavement sections are needed in the third stage to provide an accurate estimate of the relative influence of key pavement elements that affect pavement performance for purposes of specification validation. The importance of this experiment is highlighted by its ability to evaluate the interaction of traffic, structural parameters and climatic factors on pavement performance in a controlled manner. The overall SPS-9A experiment objectives are shown in table 2.

Table 2. SPS-9A overall experiment objectives.

1. To further validate the performance-based asphalt and asphalt-aggregate mixture specifications through controlled field experiments.
2. To provide a direct comparison, in terms of measured performance between existing highway agencies' asphalt specifications, asphalt-aggregate mixture specifications, mixture design procedures and SHRP's performance-based specifications and mix design and analysis system.
3. To provide performance data collected over a long term from controlled field experiments and to provide for modification of specifications at the local, regional or national level.
4. To provide training and assistance to Agency personnel in binder characterization procedures, the mix design process and establish the practicality of implementing the SUPERPAVE™ system.
5. To provide data for SUPERPAVE™ models refinement and modifications.

The SPS-9A experiment will focus on two main issues: (1) performance of SUPERPAVE™ mixtures relative to local agency mixtures and (2) verification of the SHRP asphalt binder selection process. The SPS-9A experiment design consists of a moisture/temperature factorial to be filled by test sites constructed by the participating agencies. The environmental conditions in this factorial for the SPS-9A experiment are defined by the SHRP Asphalt Regional Program in specific rainfall amounts and pavement temperatures as opposed to the global environmental conditions used in the other LTPP experiments. Table 3 depicts the experiment design for the SPS-9A experiment that incorporates the SHRP asphalt environmental factors. The temperatures are duplicates of the latest SHRP Performance Grade (PG) specification, but limited to more commonly found conditions in the United States, as indicated by the unshaded cells. As shown in table 3, 32 temperature-moisture combinations result in a total of 32 project sites.

Each test site for SPS-9A shall include three test sections, one using the Agency's current mixture design, one using the SUPERPAVE™, and the other using a SUPERPAVE™ mixture with a SHRP binder grade either higher or lower than required by SUPERPAVE™.

For additional information on general experiment design for SPS-9A, please refer to "Specific Pavement Studies: Experimental Design and Research Plans for Experiment SPS-9A, SUPERPAVE™ Asphalt Binder Study, September 1994".

Selection/Nomination of US-65, Southbound

This project was first nominated by the State of Arkansas on 3 July 1996. After reviewing the details provided by the state on this project and preparation of a tentative layout of the test sections (to ensure that adequate space was available for such a project), the project was officially renominated on 7 August 1996. Appendix A contains the nomination forms which provide information on the project location, significant dates, traffic information and the Agency's pavement structural design for the project in question. Figure 1 is a copy of the Stage Agency's plan title sheet. This sheet depicts the location of the project as well as the project's station limits and length of project. Figure 2 also comes from the State Agency's project plans and denotes the details of a typical section of project roadway.

PRECONSTRUCTION MONITORING

Preconstruction monitoring activities began in September 1996 and consisted of rod and level shots, cross-profiling (Dipstick®), longitudinal profiling (profilograph), Falling Weight Deflectometer (FWD) testing, coring, auguring, and subgrade sampling. The rod and level shots would serve as an existing reference for layer thickness and slope in order to attain the thickness and slope of the newly constructed pavement layers. Eight 4-inch cores were collected and used to examine the in situ surface layer and its corresponding layer thickness. Coring specifications call for 6-inch cores, but at the time, the Arkansas State Highway Department of Transportation (ARSHDT) did not own a 6-inch core barrel. After coring, auguring took place in order to collect base and subgrade samples. There was only a visual classification of the base material, whereas the subgrade was analyzed by the ARSHDT laboratory for Atterberg limits, natural moisture content, classification, and a sieve analysis.

Table 3. SPS-9A experiment design factorial.

Moisture		Wet > 635 mm/year of precipitation				Dry < 635 mm/year precipitation			
Average 7 Day Maximum Pavement Design Temperature		<52C	<58C	<64C	<70C	<52C	<58C	<64C	<70C
Minimum Pavement Design Temperature	> -46C								
	> -40C								
	> -34C								
	> -28C								
	> -22C								
	> -16C								
	> -10C								

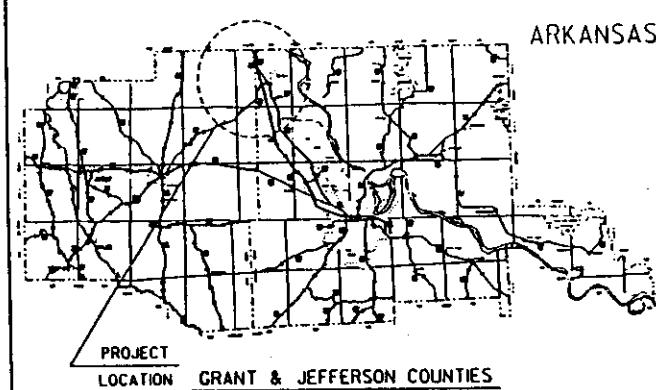
NOTES:

Traffic rate should exceed 50,000 ESAL/year in study lane.

Total traffic for design (design life) is Agency choice.

The Average 7-day maximum pavement design temperature is the average of the highest daily pavement temperatures for the seven hottest consecutive days.

The minimum pavement design temperature is the coldest pavement temperature of the year.



PROJECT
LOCATION GRANT & JEFFERSON COUNTIES

"A FULLY CONTROLLED ACCESS FACILITY"
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE APPROVED	DATE PLANS RECEIVED	DATE PLANS RECORDED	PERIOD STATUS	ROUTE NUMBER	ROAD NAME	WEEK NO.	LAW NUMBER
SARAH 2016 R20138			1	53	PULASKI CO. LINE REDFIELD REHAB		

PULASKI CO. LINE -
REFIELD (REHAB.) (S)

GRANT & JEFFERSON COUNTIES

ROUTE 65 SECTIONS 13 & 14

JOB R20138

NOTICE
HALF-SIZE PLANS

SCALE: 1" = $\frac{1}{2}$ MILE

BRIDGE DATA (FOR INFORMATION ONLY)

- (1) STA. 0+74.69 BRIDGE END EXISTING 16'P.R.C. SLAB SPAN BL NO. 56204 39'-0" CLEAR ROADWAY STA. 0+74.69 BRIDGE END STA. 0+74.69 BRIDGE END
- (2) STA. 0+16.32 BRIDGE END EXISTING 16'P.R.C. SLAB SPAN BL NO. 56205 39'-0" CLEAR ROADWAY STA. 0+16.32 BRIDGE END STA. 0+16.32 BRIDGE END
- (3) STA. 0+24.50 BRIDGE END EXISTING 16'P.R.C. SLAB SPAN BL NO. 56206 39'-0" CLEAR ROADWAY STA. 0+24.50 BRIDGE END STA. 0+24.50 BRIDGE END

STA. 0+35.00 BRIDGE END A & B EXISTING 16'P.R.C. SLAB SPAN BL NO. 56207 39'-0" CLEAR ROADWAY STA. 0+35.00 BRIDGE END A & B NEW EXISTING BRIDGE END POSTS SHALL BE MODIFIED

STA. #50 END
JOB R20138
END LT. & RT. LANES
LOG MILE 0.0 GRANT CO.

EQUATIONS:

- △ STA. 0+0.0 BL + STA. 0+0.0 ML
- △ STA. 0+172.0L + STA. 0+172.0M
- △ STA. 0+69.0L + STA. 0+69.0M
- △ STA. 0+0.0L + STA. 0+0.0M

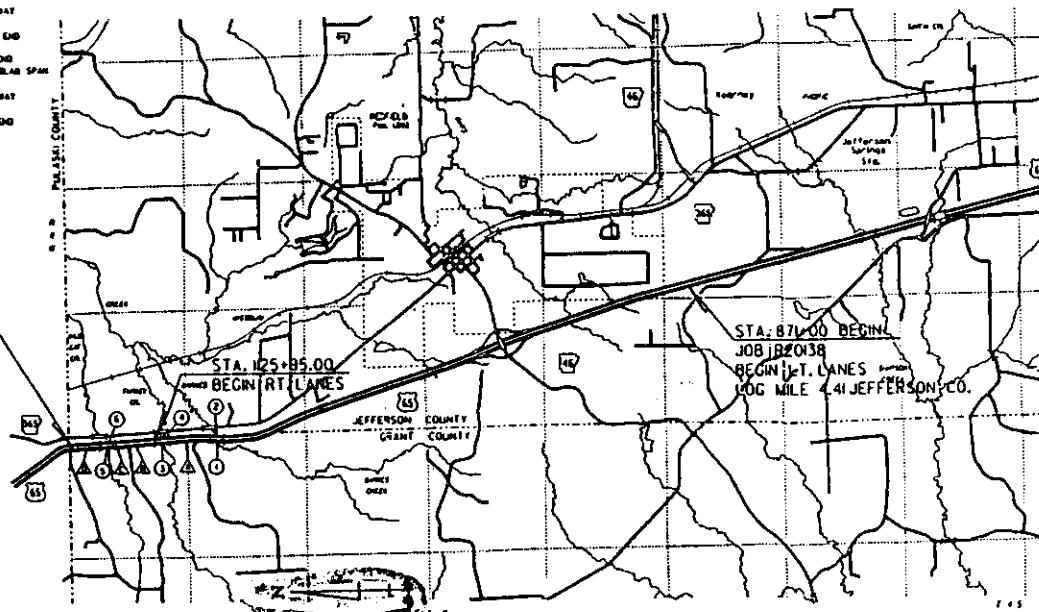
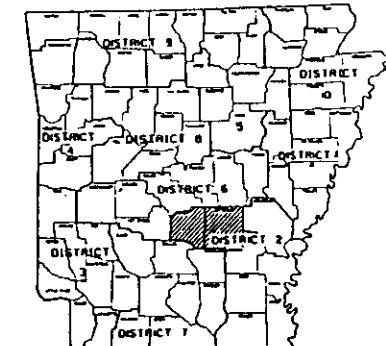


Figure 1. Title sheet.



ARK. HWY. DIST. NO. 2

DESIGN TRAFFIC DATA

DESIGN YEAR	2016
1996 ADT	16900
2016 ADT	30400
2016 DHV	3344
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	13%
DESIGN SPEED	65 MPH

RECOMMENDED FOR APPROVAL

DRIVE DESIGN OWNER

DRIVE DESIGN OWNER

DRIVE DESIGN OWNER

APPROVED

DRIVE OWNER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
RECOMMENDED FOR APPROVAL

APPROVED

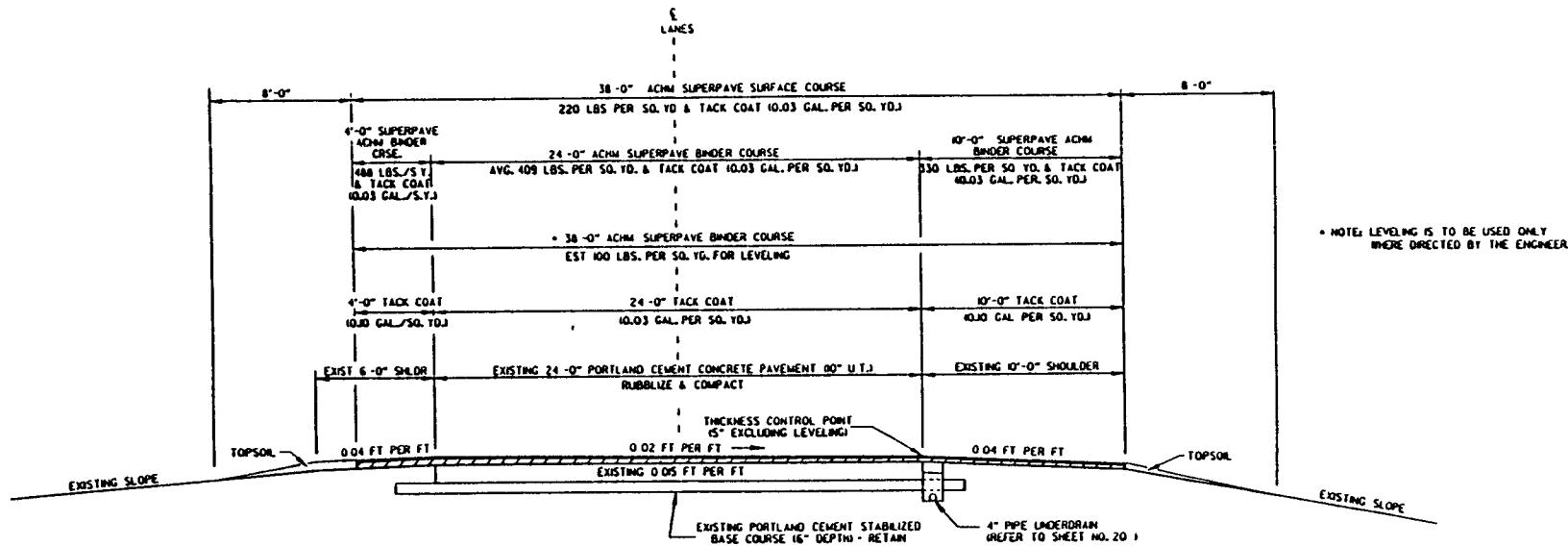
DRIVE OWNER



F.C. JOB R20138
NON PARTICIPATING

DATE RECD	DATE PLACED	DATE REMOVED	DATE PLACED	CONC. MATERIAL	STL#	FIELD PREPARED	WEST NO.	10TH SHEET
6 APR.								
AB NO.	R2018	1	55					

(2) TYPICAL SECTION OF IMPROVEMENT



TANGENT SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

LEFT MAIN LANES
STA. 947+00 TO STA. 6+50

RIGHT MAIN LANES
STA. 830+95 TO STA. 6+50

Figure 2. Typical sections.

TYPICAL SECTION OF IMPROVEMENT

CONSTRUCTION MONITORING

The SPS-9A experiment is located in Pulaski County near Redfield, Arkansas. Pulaski County is located in ARSHDT's District 2. Bill Fine is the Resident Engineer for this district, and Billy Lindsey served as the State Inspector for the project. The asphalt plant was located 33 miles north of the project on Counts-Massie Road in North Little Rock, Arkansas.

Construction activities began in October 1996. The existing pavement consisted of 10 inches of jointed plain concrete pavement (JPCP). The top 2 inches of the JPCP was rubblized using an RBI PB4 300 resonant pavement breaker. After the pavement was rubblized, the contractor rolled the rubblized concrete with a Tampo RS-28 roller. Next, the contractor primed the road surface and then applied a 1-inch Hot Mix Asphalt Concrete (HMAC) level-up using a Blaw-Knox PF-5510 paver. After compacting the level-up, using a 12-ton Sakai TW750 pneumatic steel roller, the contractor applied a 4-inch binder course. The binder course was compacted using a vibratory Hypac C766B double-drum roller (23,500 lb), followed by the Sakai combination static roller. The average laydown temperature for the HMAC was around 310°F. Approximately two months later, the contractor applied a 2-inch surface course. The same compaction methods used on the binder course were applied to the surface course as well. The mix design for the asphalt binder and surface layers can be found in appendix B. For additional details regarding the construction operations, see appendix E. Pictures of the construction process can be seen in appendix F.

POSTCONSTRUCTION MONITORING

Construction was completed in December 1996. Postconstruction monitoring activities consisted of coring 6-inch cores, obtaining rod and level measurements, longitudinal profiling, and nuclear density testing of the HMAC surface. The cross-profile and layer thickness for the SPS-9A test sections can be found in appendix D. The road was reopened to traffic in February 1997.

During the postconstruction monitoring of the SPS-9A project, five events or deviations occurred that should be noted. First, the temporary benchmark (TBM) for test section 59 was inadvertently destroyed during construction. In order to have a rough estimate of the HMAC thickness for that test section, a second TBM was set and rod and level shots were taken. A core was then taken from the test section (at station 0+00 with 0-feet offset) and measured for HMAC thickness. That thickness measurement was then used to adjust the previous rod and level shots taken using the second TBM.

A second event of note is the postconstruction coring of test section 050959. Seven of the eight cores broke at the binder/surface interface. The break was a clean break. This indicated that the tack coat did not effectively bond the two layers together.

Two 4-inch cores taken from test section 050903 at station 1+24 represent a third deviation worthy of note. Although these cores should not have been taken, it is unlikely that this event will interfere with the performance of the test section.

The fourth deviation of note is the fact that combined asphalt layers placed on the original PCC surface varied as much as 3 inches in depth between the four test sections. After comparing the postconstruction cores with the postconstruction layer thickness profiles, it was confirmed that test section 02 had a average of 5 to 5.5 inches of asphalt, test section 03 had 6 to 6.5 inches of asphalt, test section 60 had 6 to 7 inches of asphalt, and test section 59 had 7 to 8 inches of asphalt. When the asphalt was being placed, the contractor did have problems with his screed and stringline. This fact offers one plausible explanation for the variance in HMAC thickness.

Finally, during the course of the SPS-9 project, the numbering system for the four test sections changed a few times. It is noteworthy to explain the transgression of the test section numbering scheme. At the onset of preconstruction, the four test sections were labeled 03, 02, 05, and 04, respectively. Sections 05 and 04 were then changed to 60 and 59, respectively. Later, section 59 was deemed the control section and was changed to test section 01.

With completion of the SPS-9A construction and initial postconstruction monitoring, the sections under study do not show any signs of surface distress at this time. The next data to be collected will be coring at 12, 18, 24, and 48-month periods. Eight 6-inch cores will be obtained per test section. The 6-month coring was conducted during August 1997. The cores (from each coring interval) will be tested by the ARSHDT, or their designee, for volumetric and binder stiffness.

SUMMARY

Having completed the construction and initial monitoring of the SPS-9A project, it appears that the test sections within the project will contribute significantly to the evaluation of the SUPERPAVE™ Asphalt Binder Study. The test sections will continue to be monitored for surface distress, surface profile, and structural capacity. The results from the monitoring efforts will be compared against other similar projects throughout the nation. This will increase our knowledge of how SUPERPAVE™ asphalt binders work, and can be used to improve our country's highway infrastructure in the future.

This project would not have been possible without the support of the Arkansas State Highway Department of Transportation. In particular, much of the credit is due to the assistance of Boon Thian and Rick Sneed from the state office of Planning and Research, and Bill Fine of the District 2 office.

APPENDIX A

SITE NOMINATION FORMS
AND
PERTINENT CORRESPONDENCE

Brent Rauhut Engineering Inc.



7 August 1996

Mr. Monte Symons
Pavement Performance Division - LTPP
Federal Highway Administration
Turner-Fairbanks Highway Research Center
6300 Georgetown Pike, Room F-215
McLean, Virginia 22101

Subject: Arkansas SPS-9A Project Nomination

Dear Monte,

Attached are the current nomination forms for an SPS-9A project on US-65, near Pine Bluff, Arkansas. The Arkansas Highway Department plans to rubblize an existing PCC pavement and overlay with SUPERPAVE™ mix. The state mix on this project will be a PG64-22 SUPERPAVE™ mix, making the "state mix" section redundant. The alternate binder section will be PG58-22. In addition, Arkansas plans to construct sections using PG70-22 and PG76-22 binders, which will be included as state option sections. This project adjoins the previously approved SPS-6 project on the same route.

Please let me know if you need any additional information. Your prompt consideration of this nomination will be greatly appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark P. Gardner'. Below the signature, the name is printed in a standard font.

Mark P. Gardner, P.E.
Project Engineer, SRCO

MPG:dmj

Attachment: As stated.

c.w/Enc: John Miller, PCS/LAW

c.w/o Enc: Morris Reinhardt, RE/SRCO

DJ RECEIVED AUG 5 1996

ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P O Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

File: 2509-3mef

August 1, 1996

Mr. Morris Reinhardt
LTPP Southern Regional Engineer
8240 N. Mopac, Suite 250
Austin, TX 78759

Re: SPS - 9A AHTD Job No. R20138 Nomination

Dear Mr. Reinhardt:

Enclosed are the new nomination forms for SPS-9A project proposed for construction as part of rehabilitation project on "Hwy. 65 Southwest" - East Terminal Interchange in Jefferson County. We proposed the test section with SUPERPAVE P.G. 64-22 to be located from station 1133+00 to 1139+00 on the LML (SBOL) and test section with SUPERPAVE P.G. 58-22 from station 1140+00 to 1146+00 on the LML (SBOL).

Please process this nomination as soon as possible in order that the Roadway Design Division can complete plans and specifications in time for change orders as and R20138 have already been let in June, 1996 and construction has already started.

Yours truly,

A handwritten signature in black ink, appearing to read "Jim Gee".
Jim Gee
Materials Engineer

JG/BT

bc: Federal Highway Administration
Director
Deputy Director and Chief Engineer
Asst. Chief Engineer for Planning
Planning and Research
Roadway Design
District 2

SHEET A. SPS-9A CANDIDATE PROJECT NOMINATION AND INFORMATION

STATE Arkansas

SHRP SECTION NO. _____

GENERAL PROJECT INFORMATION

PROJECT LOCATION

ROUTE NUMBER 65ROUTE SIGNING Interstate U.S. State County

Other _____

PROJECT LOCATION Start Milepost 0 End Milepost 4.41
Start Station 11+50 End Station 871+00DIRECTION OF TRAVEL North B. South B. West B. East B.PROJECT LOCATION DESCRIPTION Approximately 17 miles south of Little Rock
on U.S. 65 from Pulaski/Grant County Lines to Redfield.COUNTY JeffersonHIGHWAY AGENCY DISTRICT NUMBER 2

ENVIRONMENTAL CONDITIONS

AVERAGE 7-DAY MAXIMUM <u>PAVEMENT DESIGN TEMPERATURE</u>	MINIMUM PAVEMENT <u>DESIGN TEMPERATURE</u>	MOISTURE <u>(Annual Precipitation)</u>
< 52C <input type="checkbox"/>	> -46C <input type="checkbox"/>	
< 58C <input type="checkbox"/>	> -40C <input type="checkbox"/>	< 625 mm <input type="checkbox"/>
< 64C <input checked="" type="checkbox"/>	> -34C <input type="checkbox"/>	
< 70C <input type="checkbox"/>	> -28C <input type="checkbox"/> > -22C <input checked="" type="checkbox"/> > -16C <input type="checkbox"/> > -10C <input type="checkbox"/>	> 625 mm <input checked="" type="checkbox"/>

SIGNIFICANT DATES

LATEST DATE OF APPROVAL NOTIFICATION FROM FHWA LTPP	<u>ASAP</u>
CONTRACT LETTING DATE	<u>June 96</u>
ESTIMATED CONSTRUCTION START DATE	<u>August 96</u>
ESTIMATED DATE TEST SECTIONS OPENED TO TRAFFIC	<u>February 97</u>
ESTIMATED CONSTRUCTION COMPLETION DATE	<u>February 97</u>

**SHEET A. SPS-9 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM
(Continued)****PROJECT DESCRIPTION**

PROJECT TYPE [] New Route [] Resurfacing Flexible [] Resurfacing Rigid
Other Reconstruction (Rubblizing existing concrete)

FACILITY Divided Undivided NUMBER OF LANES (One Way) 2

DESIGN TRAFFIC DATA

ANNUAL AVERAGE DAILY TRAFFIC (TWO DIRECTIONS)	<u>23,650</u>
% HEAVY TRUCKS AND COMBINATIONS (OF AADT)	<u>13</u>
EST. 18K ESAL RATE IN STUDY LANE (1,000 ESAL/YR)	<u>318</u>
TOTAL DESIGN 18K ESAL APPLICATIONS IN DESIGN LANE	<u>3185720</u>
DESIGN PERIOD (Years)	<u>10</u>

SHEET B. SPS-9 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE Arkansas

SHRP SECTION NO. _____

AGENCY'S PAVEMENT STRUCTURE DESIGN FOR SITE

LAYER ¹ NO.	LAYER ² DESCRIPTION CODE	MATERIAL TYPE ³ CLASS CODE	THICKNFSS ⁴ (in.)	STRUCTURAL ⁵ COEFFICIENT
1	SUBGRADE (7)	5 3	— — —	3,000 psi Mr.
2	0 6	2 7	6.0	0.05
3	0 5	3 9	10.0	0.26
4	0 3	2 0	5.5	0.44 (Superpave P.G. 76-22)
5	— —	— —	— — —	0. — — 70-22
6	— —	— —	— — —	0. — — 64-22
7	— —	— —	— — —	0. — — 58-22)
8	— —	— —	— — —	0. — —
9	— —	— —	— — —	0. — —

STRUCTURAL DESIGN METHOD

1972 AASHTO 1986 AASHTO 1993 AASHTO Modified AASHTO

Other _____

AASHTO DESIGN RELIABILITY FACTORS R% 90 S₀ 0.45

OUTSIDE SHOULDER TYPE

Turf Granular Asphalt Concrete Surface Treatment

PCC Curb and Gutter Other _____

OUTSIDE SHOULDER WIDTH (meters) 3.048SUBSURFACE EDGE DRAINS Yes NoNOTES

1. Layer 1 is the natural occurring subgrade soil. The pavement surface will have the largest assigned layer number.
2. Layer description codes:

Surface Layer:	03	Base Layer:	05	Subgrade:	07
Subsurface HMAC:	04	Subbase Layer:	06	Embankment (Fill): 11	
3. Refer to Tables A-1 through A-4 for material class codes.
4. If subgrade depth to a rigid layer is known, enter this depth for subgrade thickness, otherwise leave subgrade layer thickness blank.
5. Enter AASHTO structural layer coefficient value, as appropriately modified, used in pavement design or typical coefficient used by agency for this material. For the subgrade, enter either AASHTO soil support value or resilient modulus value (MPa) used in design.

SHEET C. SPS-9A CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE Arkansas

SHRP SECTION NO. _____

TEST SECTION LAYOUT

NUMBER OF TEST SECTIONS ENTIRELY ON: FILL 2 CUT _____SHORTEST TRANSITION BETWEEN CONSECUTIVE TEST SECTIONS (meters) 100VERTICAL GRADE (Avg %) (+ upgrade; - downgrade) 0°HORIZONTAL CURVATURE (Degrees) 0° [] TangentCOMMENTS ON DEVIATIONS FROM DESIRED SITE LOCATION CRITERIA _____

OTHER SHRP TEST SECTIONS

DOES AGENCY DESIGN CONFORM TO GPS-1, GPS-2, GPS-6 OR GPS-7
PROJECT CRITERIA? [] YES [] NODISTANCE TO NEAREST GPS TEST SECTION ON SAME ROUTE (km) 32.187TEST SECTION NUMBER OF NEAREST GPS SECTION 054019

ARE OTHER SPS SECTIONS LOCATED ON SAME PROJECT? [] YES [] NO

IF YES: [] SPS-1 [] SPS-5 [X] SPS-6 [] OTHER

SUPPLEMENTAL TEST SECTIONS

IF SUPPLEMENTAL EXPERIMENTAL TEST SECTIONS ARE PROPOSED, COMPLETE THE
FOLLOWING:

TOTAL NUMBER OF SUPPLEMENTAL TEST SECTIONS _____

FACTORS TO BE INVESTIGATED _____

APPENDIX B

SPS-9A MIX DESIGN

ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

July 29, 1996

E. C. Rowlett Construction Co. Inc.
P O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
(Rehab)
State

Gentlemen:

We have reviewed the mix design for SUPERPAVE Volumetric Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,

Lerry P. Westerman
for Jim Gee
Engineer of Materials DESIGN
 ACCEPTED

cc: Resident Engineer 23
District 2 Engineer
Inspector c/o Resident Engineer 23
District 2 Materials Supervisor
Design Lab

JUL 23 1996

ENGR. OF MATERIALS _____
BY WW _____

LAB # SP1-96

ARKANSAS HIGHWAY & TRANSPORTATION C
 SUPERPAVE VOLUMETRICMIX DES.
 MAXIMUM NUMBER OF DESIGN GYRATIC
25MM NOMINAL SIZE MIX

LAB NO:SP1-96

JOB NO:R2

PLANT NAME:FRESHOUR**LOCATION: CRYSTAL HILL****MATERIAL SOURCES**

AGGR.#	SOURCE	LC
1 1/4"	CRYSTAL HILL QUARRY	N
5/8"	CRYSTAL HILL QUARRY	N
SCRNS	CRYSTAL HILL QUARRY	N
IND SA	GRANITE MTN QUARRY	SV
1/2"	CRYSTAL HILL QUARRY	N
MF4	BATESVILLE LIME	BA

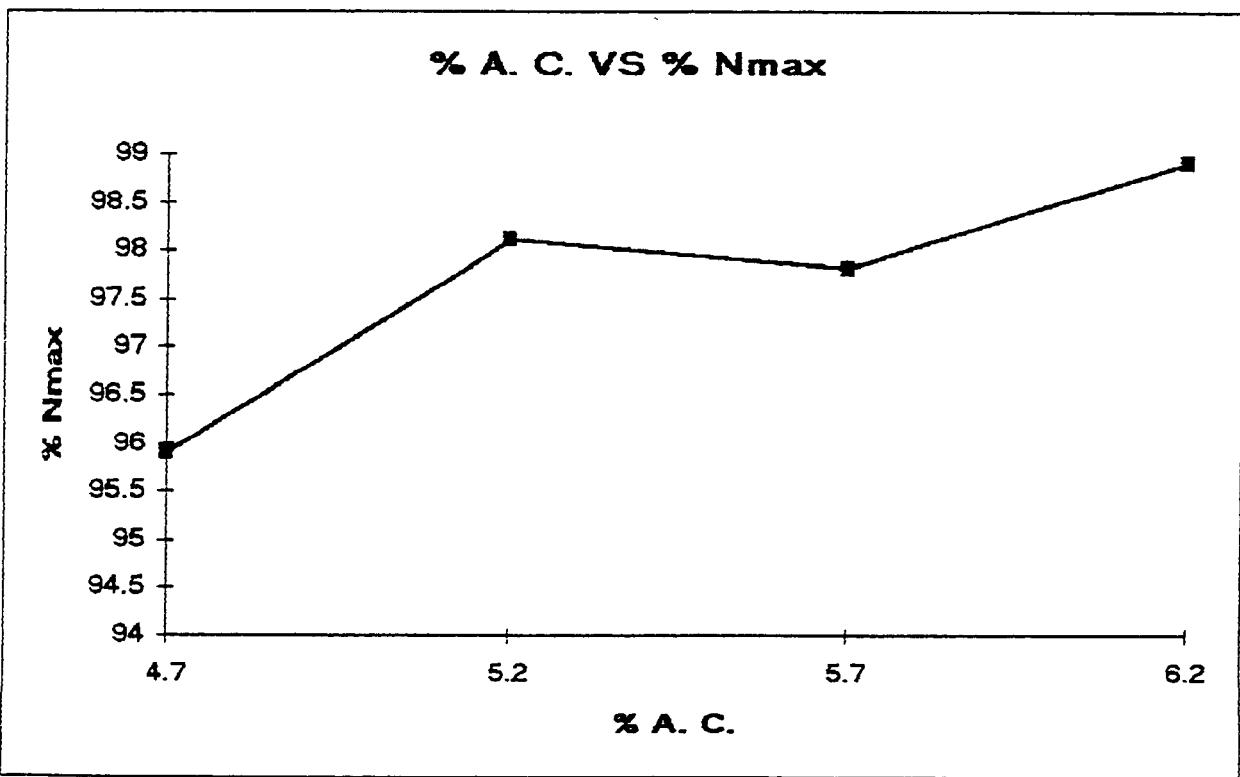
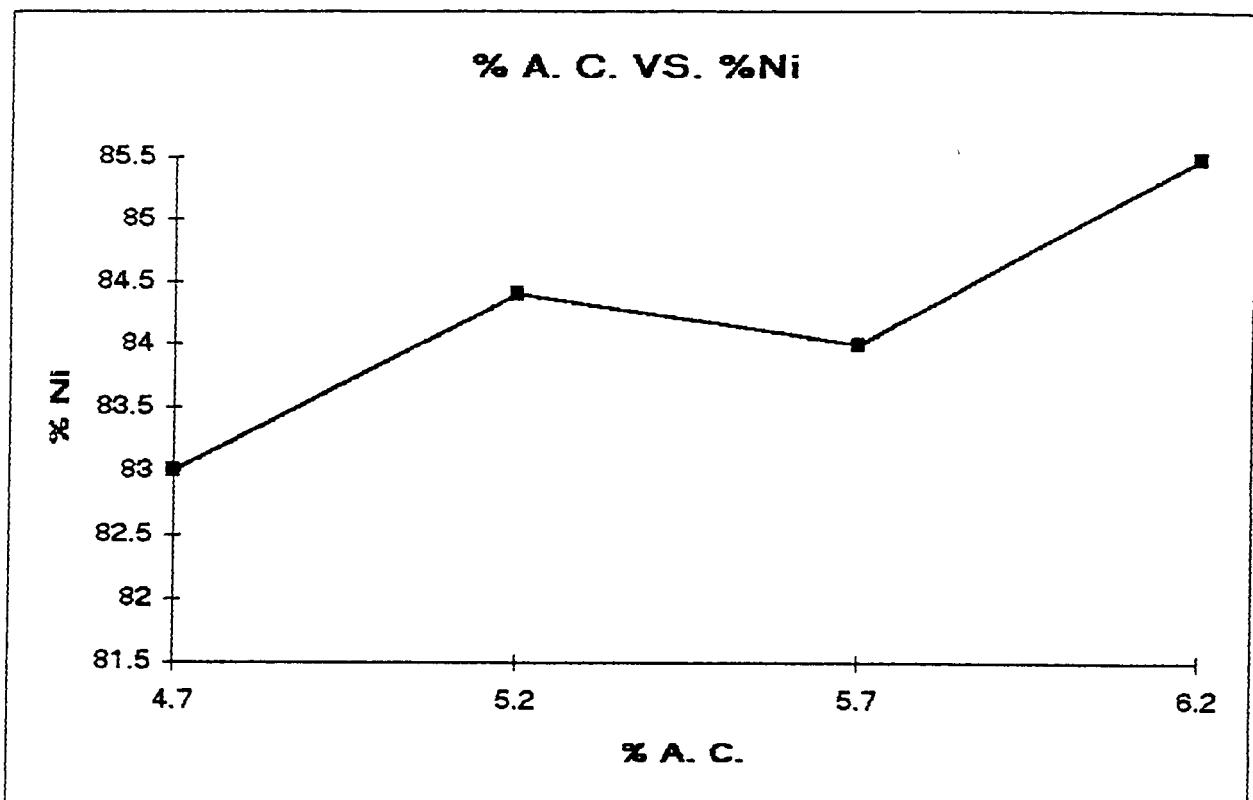
MATERIAL GRADATIONS (% PASSING)

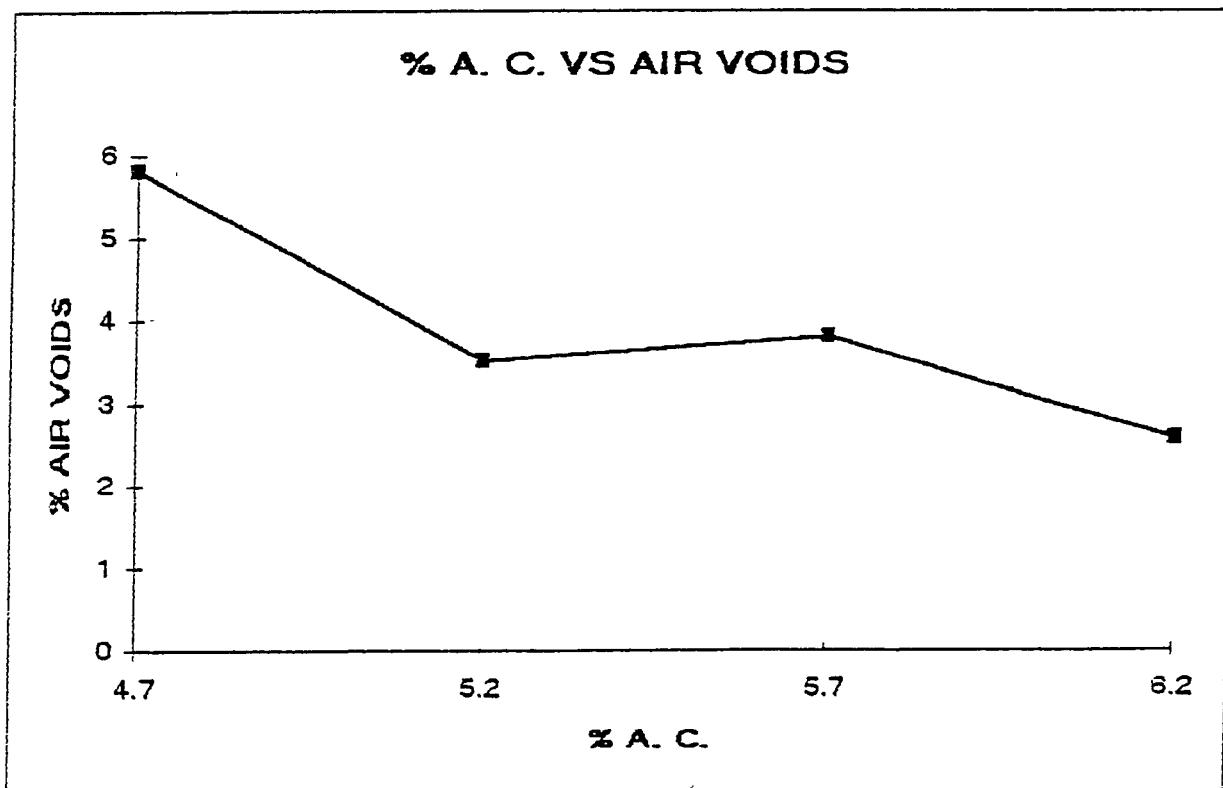
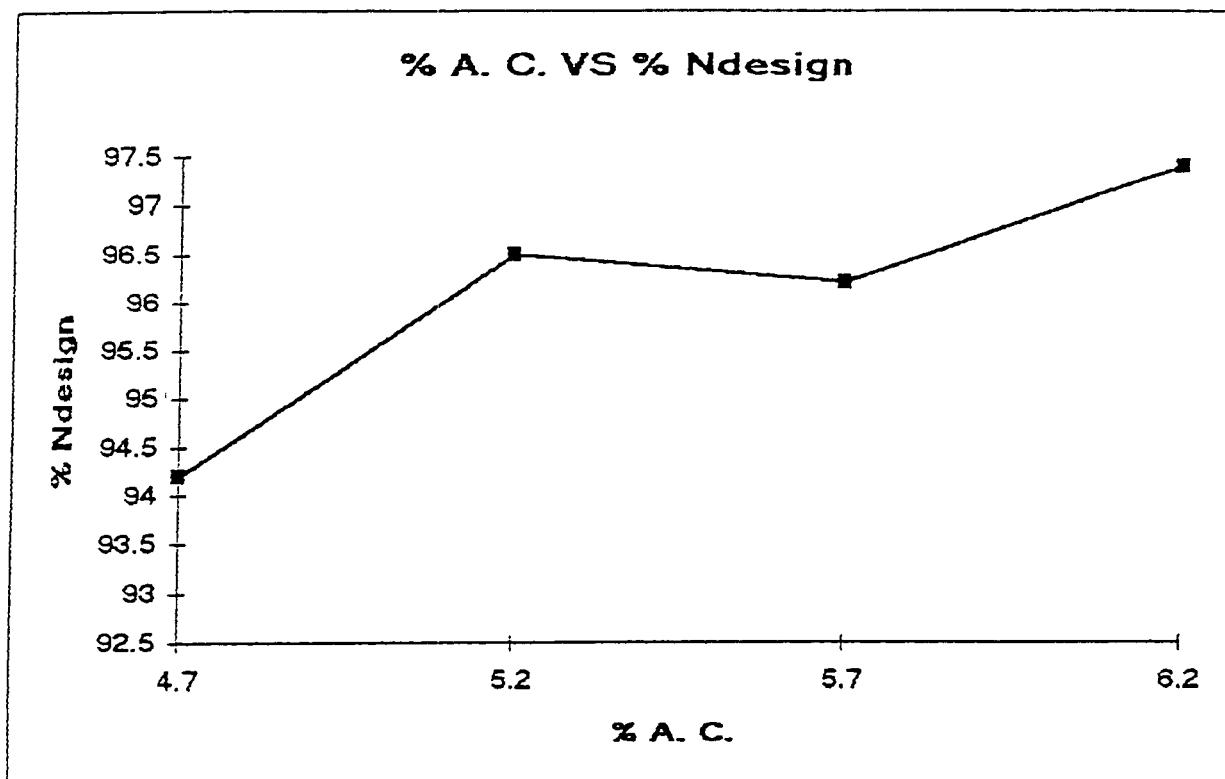
SIEVE (mm)	AGGR #				
	1 1/4"	5/8"	SCRNS	IND SA	1/2"
37.5	100	100	100	100	100
25	93.1	100	100	100	100
19	56.6	100	100	100	100
12.5	14.3	92.4	100	100	100
9.5	6.8	45.9	99.7	100	65.6
4.75	3.9	8.8	74	89.7	3.5
2.36	2.6	5.2	49.3	55	2.3
1.18	2.2	4.1	35	35	2.2
0.6	2.1	3.9	27.7	25	2.1
0.3	1.9	3.4	21.9	12	2.1
0.15	1.6	3.1	16.6	5	2
0.075	1.3	2.3	10.7	2.9	1.9
COLD					
FEED %	29	31	26	8	5

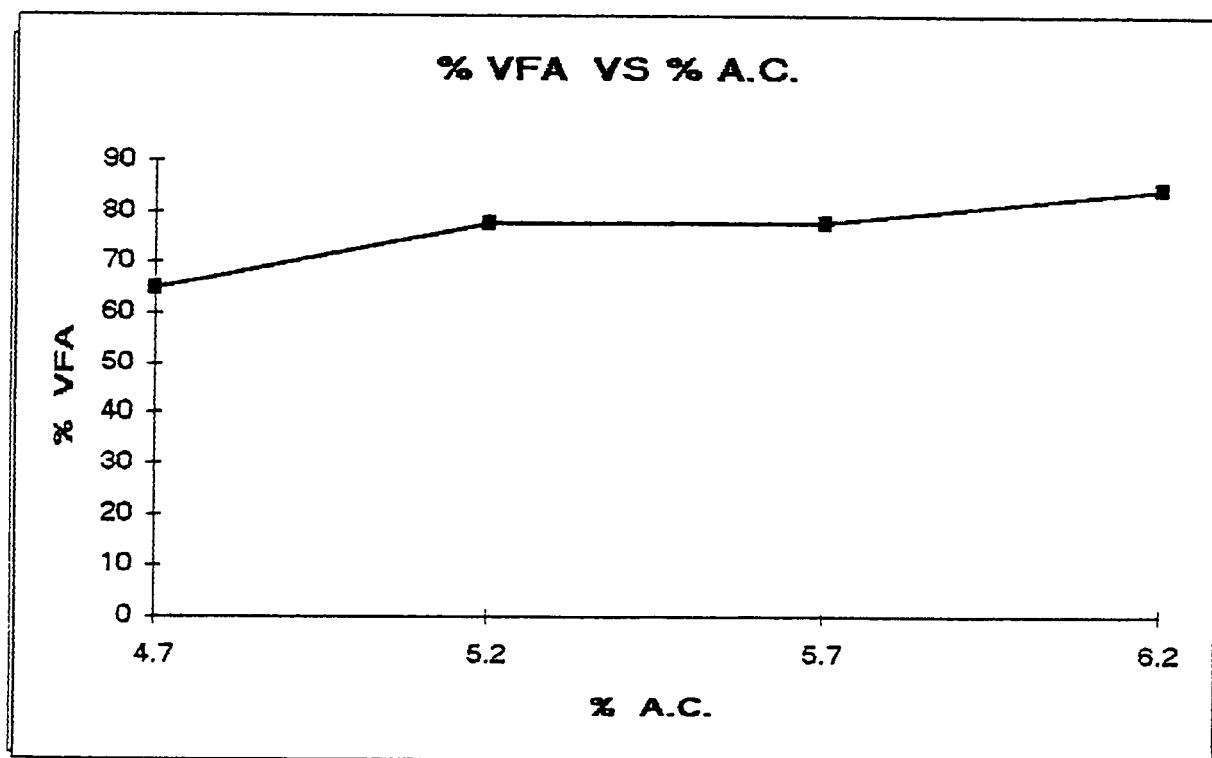
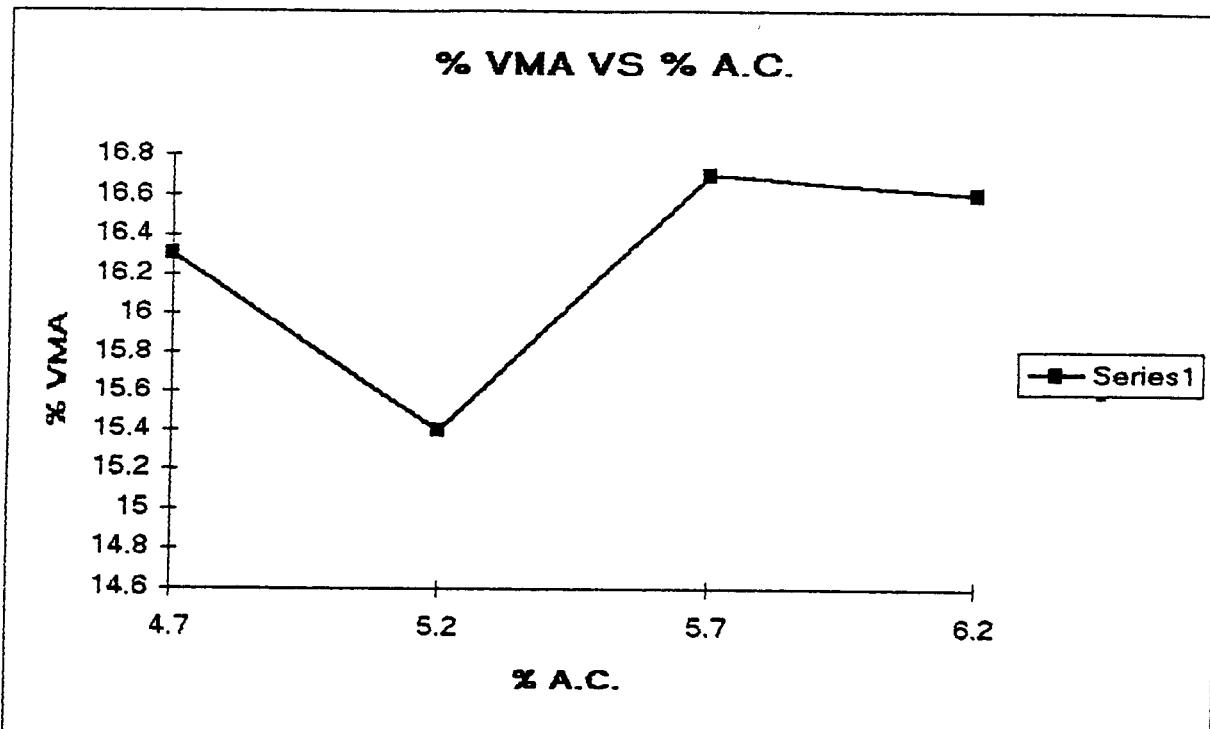
SUMMARY OF MIX COMPACTION PROPERTIES FOR BLE

%AC	%Gmm @ Ni	%Gmm @ Nmax	%Gmm @ Nd	% AIR voids	% VMA	%
4.7	83	95.9	94.2	5.8	16.3	6
5.2	84.4	98.1	96.5	3.5	15.4	7
5.7	84	97.8	96.2	3.8	16.7	7
6.2	85.5	98.9	97.4	2.6	16.6	8

DESIGN ASPHALT CONTENT: 5
THERO. MAXIMUM SP. GR.(Gmm) 2.443
ASPHALT BINDER - ERGON (PG76-22)







ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

August 1, 1996

E. C. Rowlett Construction Co. Inc.
P. O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
(Rehab)
State

Gentlemen:

We have reviewed the mix design for SUPERPAVE Volumetric Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,
Jerry L. Westerman
Jim Gee
Engineer of Materials

D E S I G N
A C C E P T E D

cc: Resident Engineer 23
District 2 Engineer
Inspector c/o Resident Engineer 23
District 2 Materials Supervisor
Design Lab

AUG 1 1996
ENGR. OF MATERIALS
BY *W.W.*

LAB # : SP2-96

ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT
 SUPERPAVE VOLUMETRIC MIX DESIGN
 MAXIMUM NUMBER OF DESIGN GYRATIONS 169
 12.5MM NOMINAL SIZE MIX

LAB NO:SP2-96

PLANT NAME:ROWLETT

LOCATION: CRYSTAL HILL

MATERIAL SOURCES

AGGR.#	SOURCE	LOCATION
5/8"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SCRNS	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
1/2"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
IND SA	GRANITE MTN QUARRY	SWEET HOME

050959

Surface Mix

Z.W.P. 3/6/97

MATERIAL GRADATIONS (% PASSING)

SIEVE (mm)	AGGR #					
	5/8"	SCRNS	1/2"	IND SA		
37.5	100	100	100	100		
25	100	100	100	100		
19	100	100	100	100		
12.5	92.4	100	100	100		
9.5	45.9	99.7	65.6	100		
4.75	8.8	74	3.5	89.7		
2.36	5.2	49.3	2.3	55		
1.18	4.1	35	2.2	35		
0.6	3.9	27.7	2.1	25		
0.3	3.4	21.9	2.1	12		
0.15	3.1	16.6	2	5		
0.075	2.3	10.7	1.9	2.9		
COLD FEED %	43	35	5	17		

JOB MIX
100
100
100
97
75
45
29
20
16
11
8
5.3

SUMMARY OF MIX COMPACTION PROPERTIES FOR BLEND

%AC	%Gmm @ Ni	%Gmm @ Nmax	%Gmm @ Nd	% AIR VOIDS	% VMA	%VFA	F/A RATIO
4.5	83.9	96	94.6	5.4	15.6	65.1	1.2
5	85	97.3	95.9	4.1	15.5	73.6	1.1
5.5	86	98.9	97.4	2.6	15.2	83.2	1
6	86.3	99.6	98.2	1.8	15.6	88.2	0.9

DESIGN ASPHALT CONTENT:

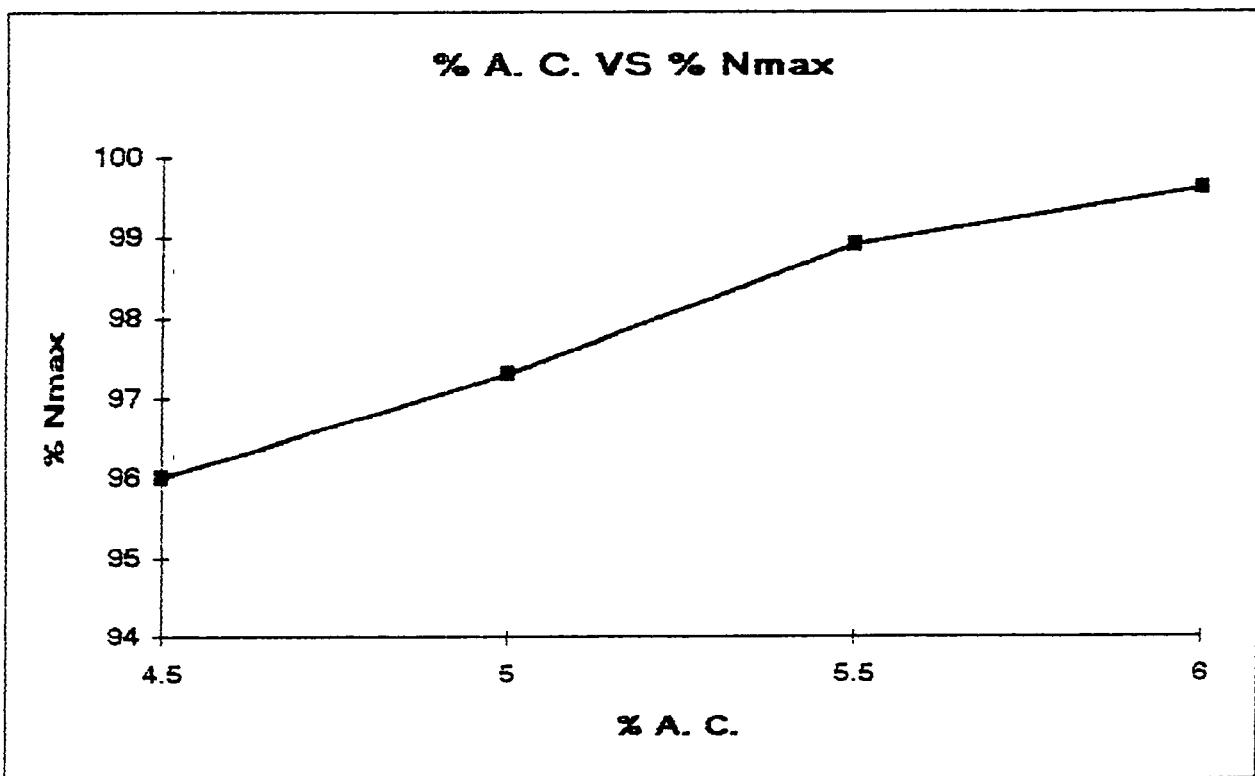
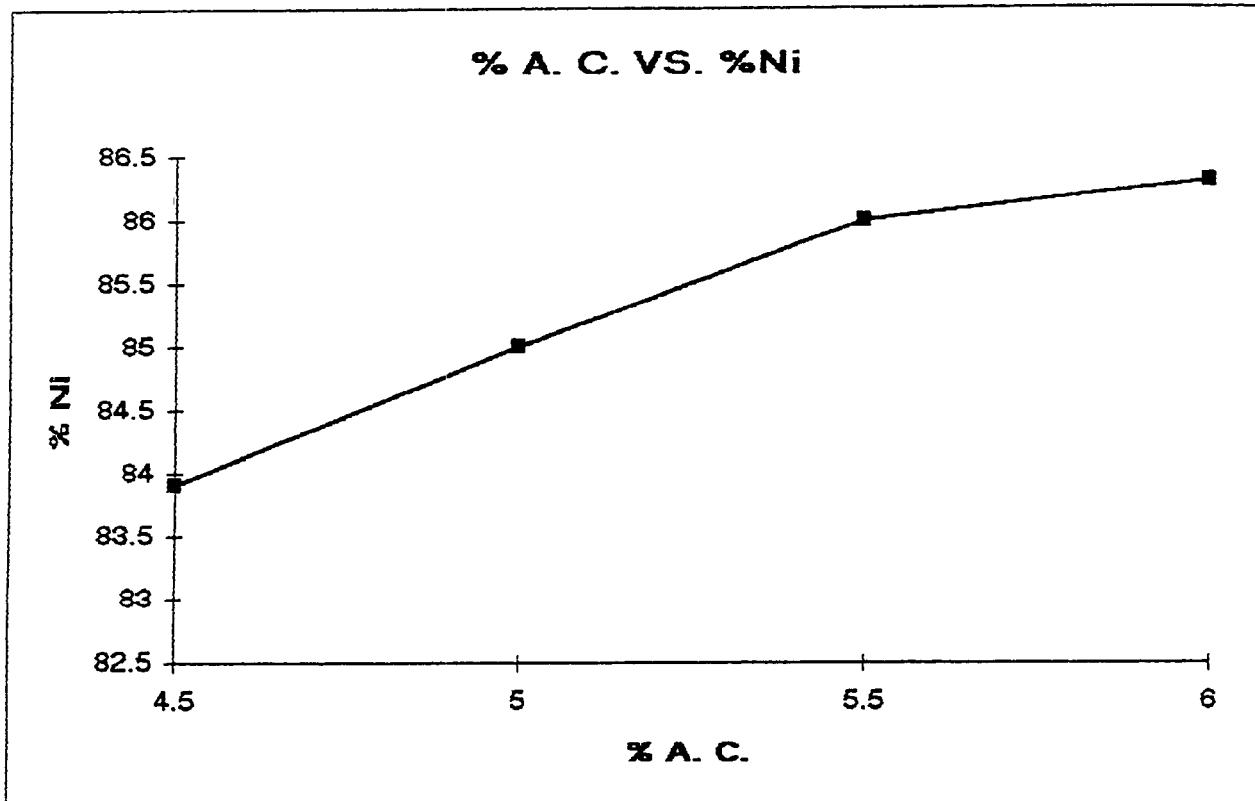
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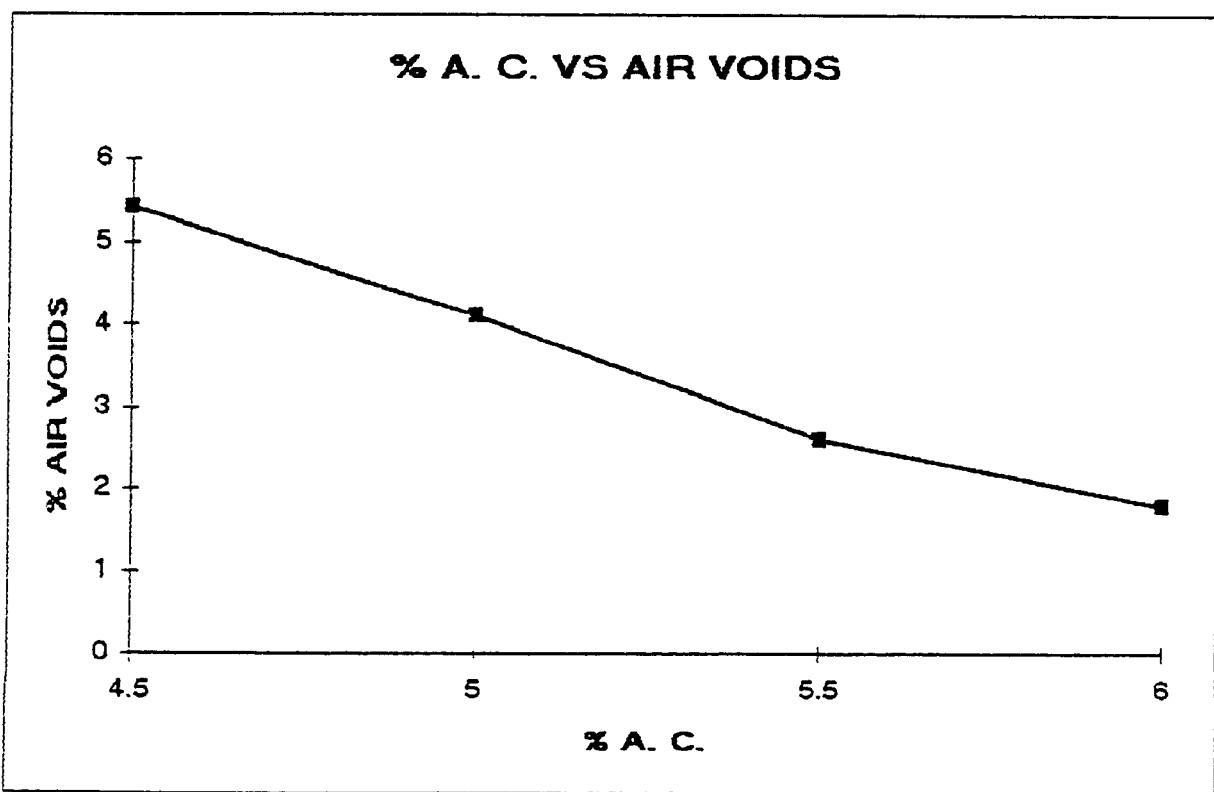
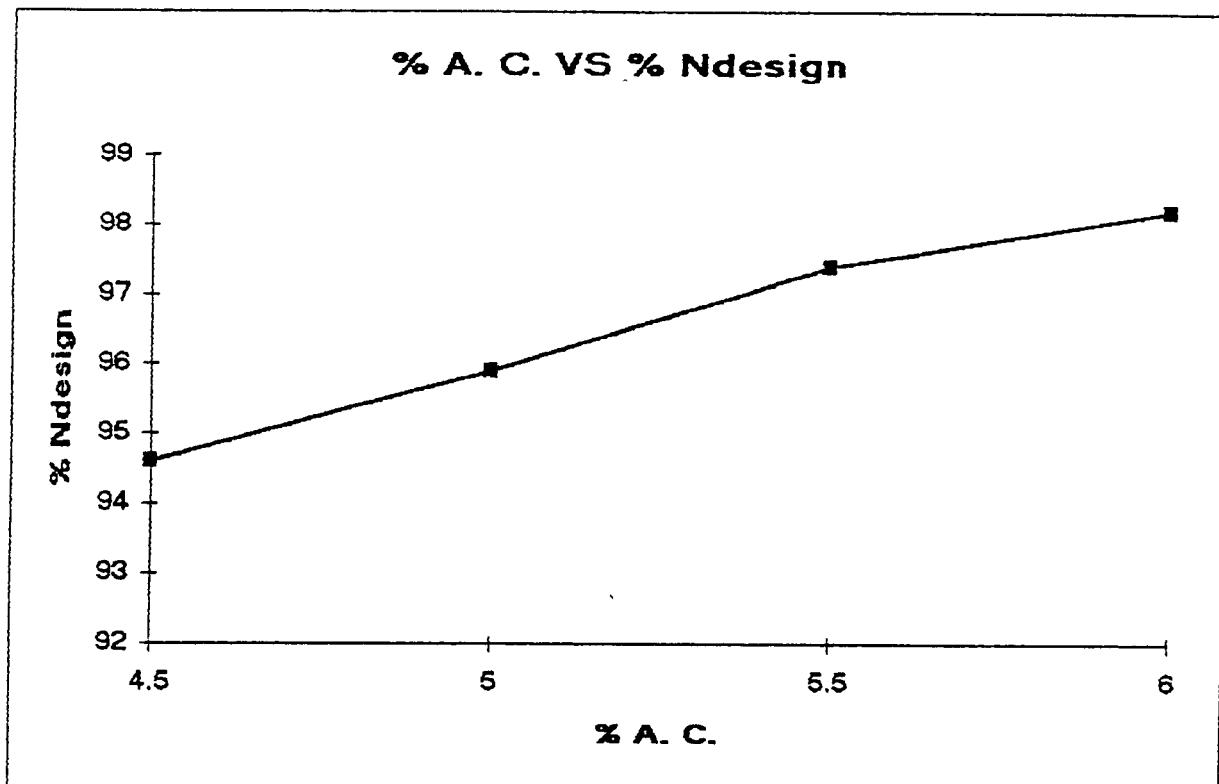
THERO. MAXIMUM SP. GR.(Gmm) 2.440

ASPHALT BINDER - ERGON PG76-22

$$\rho_{bo} = \rho_b - \left[\rho_b \frac{G_{so} - G_{sb}}{G_{so}G_{sb}} \right]$$

$$G_{so} = G_{sb} + 0.3(G_{sa} - G_{sb})$$





ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

August 13, 1996

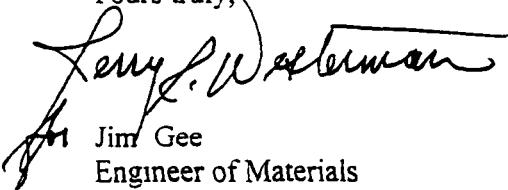
E. C. Rowlett Construction Co. Inc.
P. O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
(Rehab)
State

Gentlemen:

We have reviewed the mix design for SUPERPAVE Volumetric Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,


Jim Gee
Engineer of Materials

DESIGN
ACCEPTED

cc: Resident Engineer 23
District 2 Engineer
Inspector c/o Resident Engineer 23
District 2 Materials Supervisor
Design Lab

AUG 15 1996

ENGR. OF MATERIALS

BY _____

LAB # : SP3-96

ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT
 SUPERPAVE VOLUMETRIC MIX DESIGN
 MAXIMUM NUMBER OF DESIGN GYRATIONS 169
 12.5MM NOMINAL SIZE MIX

LAB NO:SP3-96

JOB NO:R20138

050902
 Surface mix

PLANT NAME:ROWLETT

LOCATION: CRYSTAL HILL

MATERIAL SOURCES

AGGR.#	SOURCE	LOCATION
5/8"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SCRNS	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
1/2"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
IND SA	GRANITE MTN QUARRY	SWEET HOME

MATERIAL GRADATIONS (% PASSING)

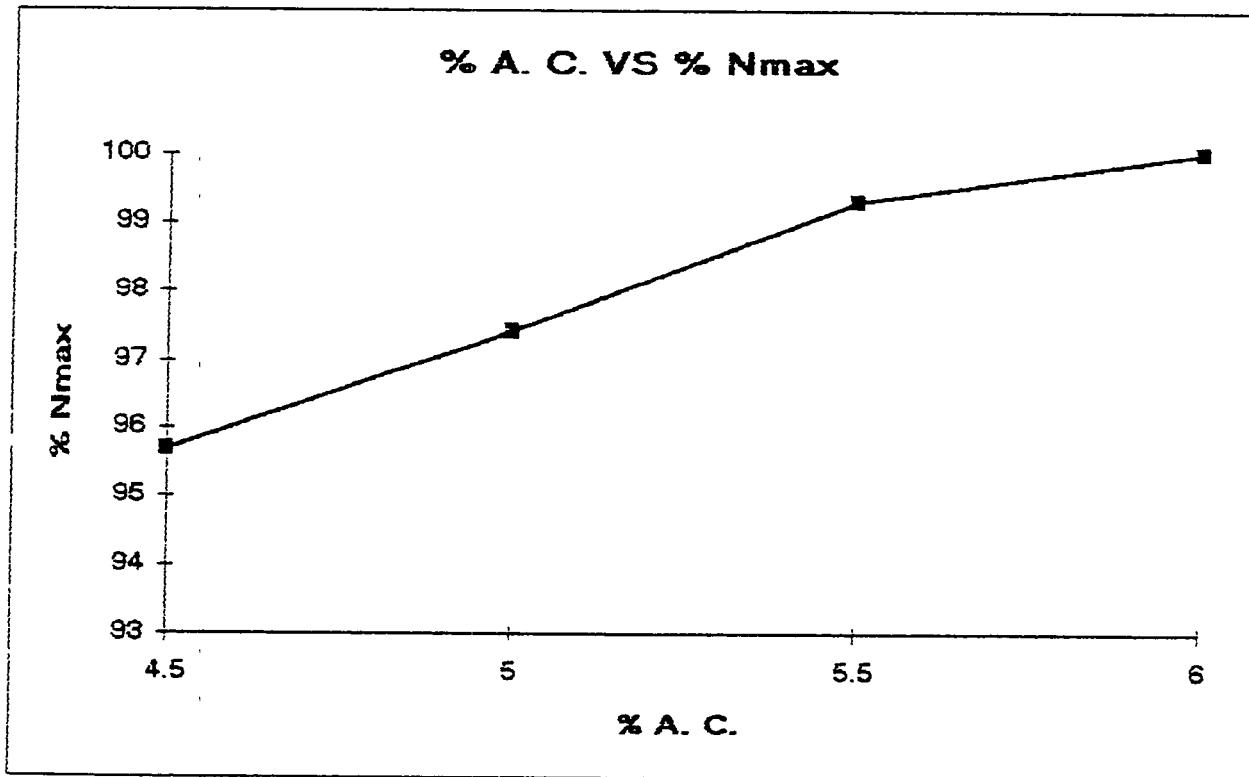
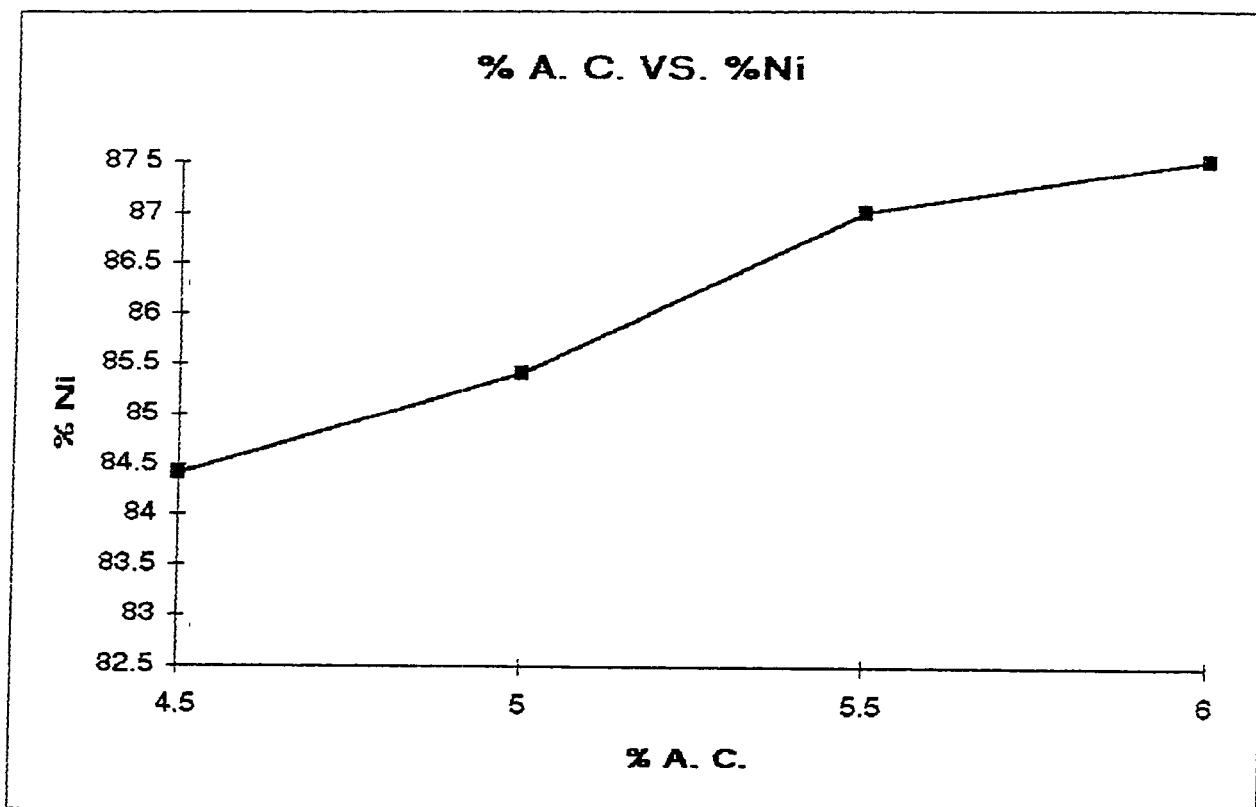
SIEVE (mm)	AGGR #					JOB MIX
	5/8"	SCRNS	1/2"	IND SA		
37.5	100	100	100	100		100
25	100	100	100	100		100
19	100	100	100	100		100
12.5	92.4	100	100	100		97
9.5	45.9	99.7	65.6	100		75
4.75	8.8	74	3.5	89.7		45
2.36	5.2	49.3	2.3	55		29
1.18	4.1	35	2.2	35		20
0.6	3.9	27.7	2.1	25		16
0.3	3.4	21.9	2.1	12		11
0.15	3.1	16.6	2	5		8
0.075	2.3	10.7	1.9	2.9		5.3
COLD FEED %	43	35	5	17		

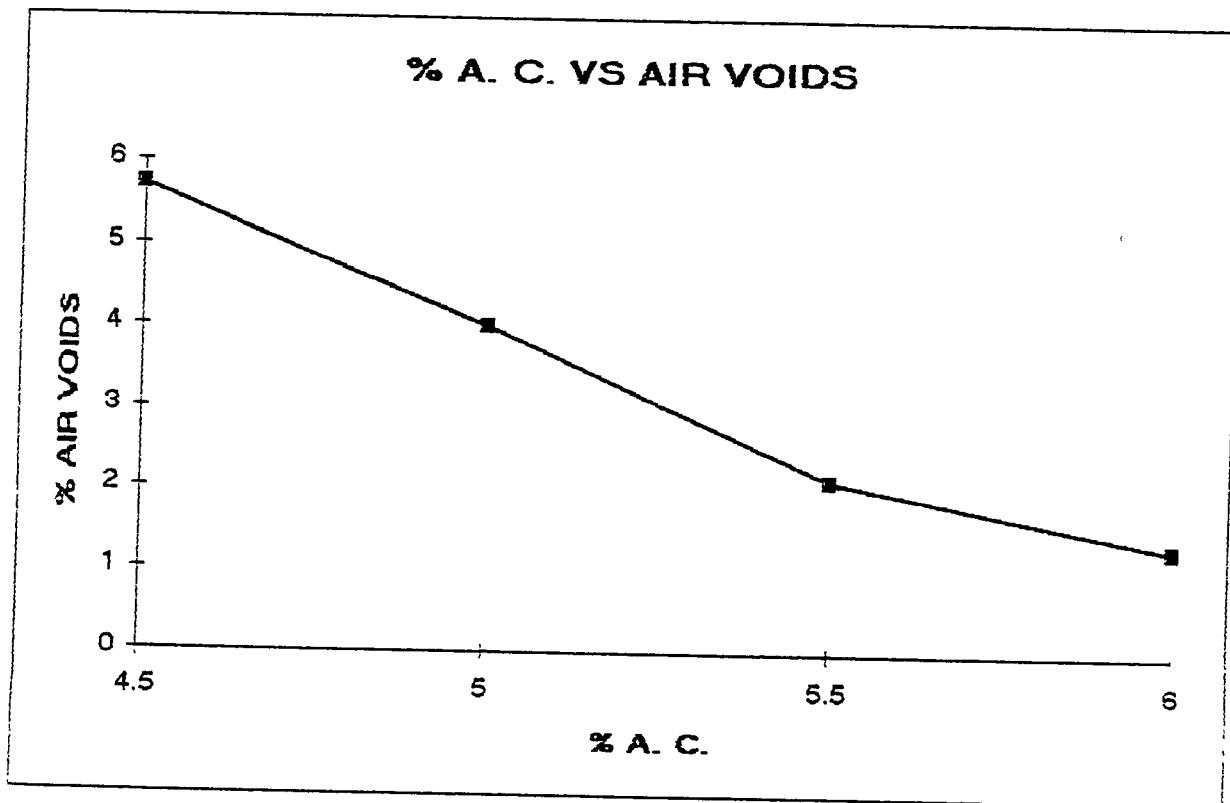
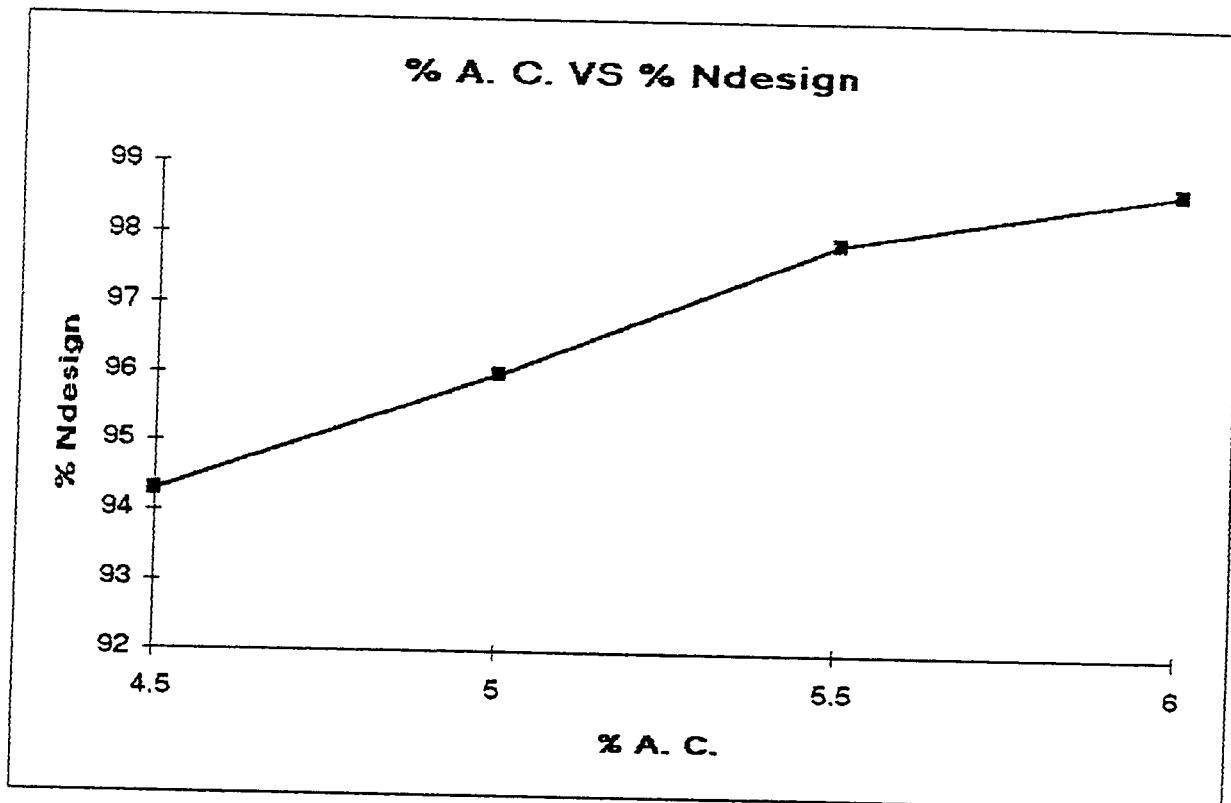
SUMMARY OF MIX COMPACTION PROPERTIES FOR BLEND

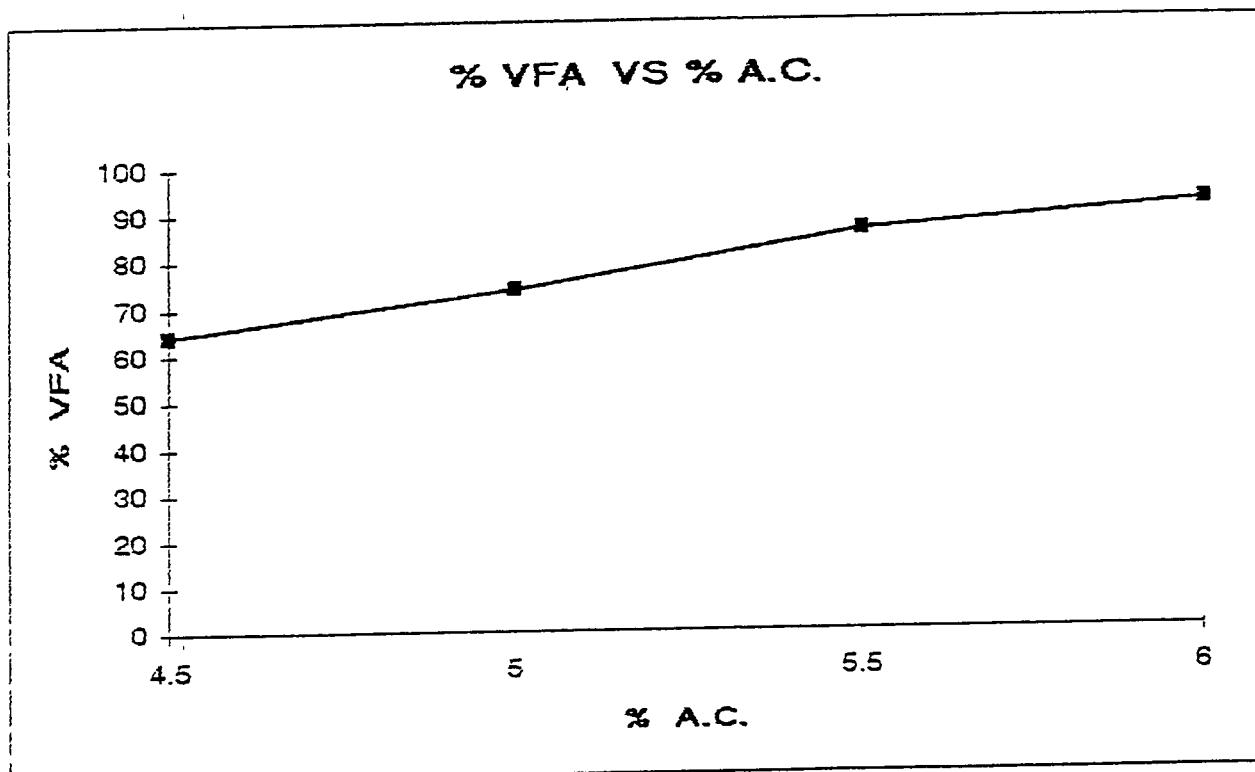
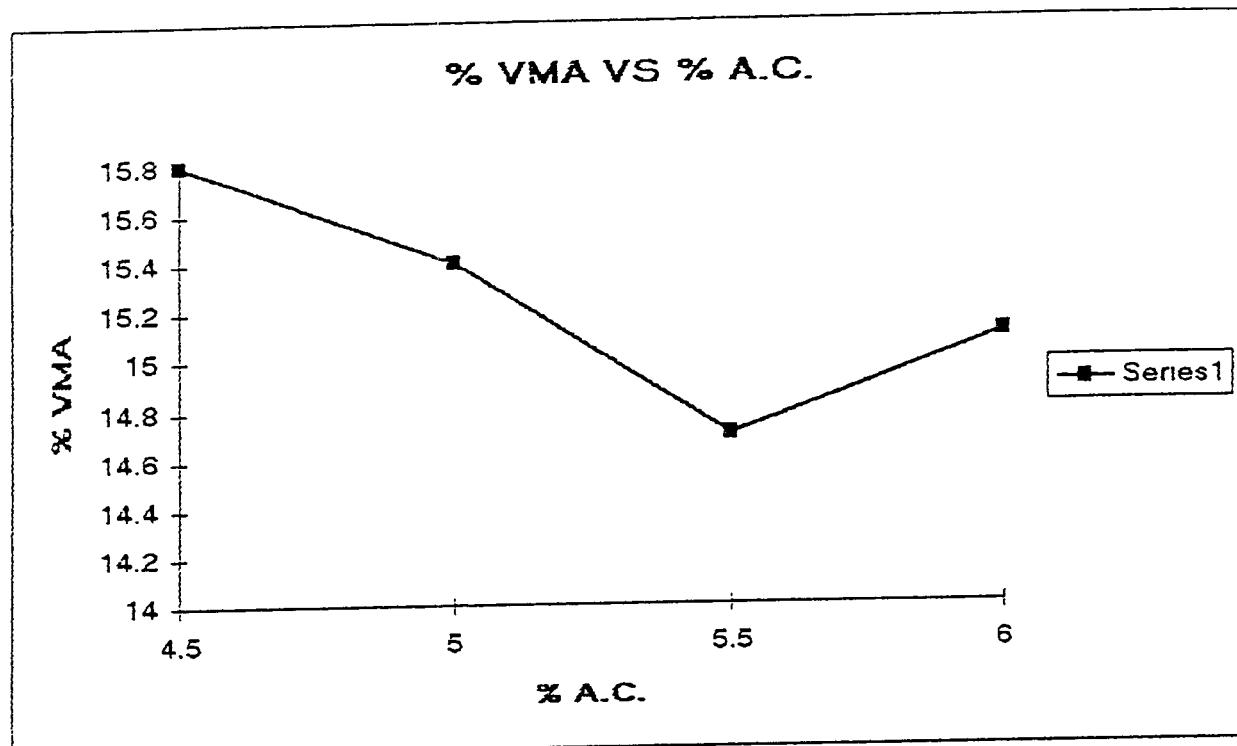
%AC	%Gmm @ NI	%Gmm @ Nmax	%Gmm @ Nd	% AIR VOIDS	% VMA	%VFA	F/A RATIO
4.5	84.4	95.7	94.3	5.7	15.8	64.1	1.21
5	85.4	97.4	96	4	15.4	73.8	1.11
5.5	87	99.3	97.9	2.1	14.7	86.1	1
6	87.5	100	98.7	1.3	15.1	91.4	0.91

DESIGN ASPHALT CONTENT: 5
 THERO. MAXIMUM SP. GR.(G/mm) 2.444
 ASPHALT BINDER - LION (PG64-22)

MIXING TEMP.:317 F
 COMPACTION TEMP. : 294







ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

September 16, 1996

E. C. Rowlett Construction Co. Inc.
P O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
(Rehab)
State

Gentlemen:

We have reviewed the mix design for 25mm SUPERPAVE Volumetric Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,

Jerry L. Westerman
for Jim Gee
Engineer of Materials

cc: Resident Engineer 23
District 2 Engineer
Inspector c/o Resident Engineer 23
District 2 Materials Supervisor
Design Lab

DESIGN
ACCEPTED

SEP 17 1996
ENGR. OF MATERIALS
BY _____
LAB # SP5-96

ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT
 SUPERPAVE VOLUMETRIC MIX DESIGN
 MAXIMUM NUMBER OF DESIGN GYRATIONS 169
25MM NOMINAL SIZE MIX

LAB NO:SP5-96

JOB NO:R20138

050902
Binder Mix

PLANT NAME: ROWLETT
 LOCATION: CRYSTAL HILL
MATERIAL SOURCES

AGGR.#	SOURCE	LOCATION
1 1/4"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
5/8"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SCRNS	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
IND SA	GRANITE MTN QUARRY	SWEET HOME

MATERIAL GRADATIONS (% PASSING)

SIEVE (mm)	AGGR #					JOB MIX
	1 1/4"	5/8"	SCRNS	IND SA		
1.5	37.5	100	100	100		
1	25	93.1	100	100		
5/8	19	56.6	100	100		
3/4	12.5	14.3	92.4	100		
1/2	9.5	6.8	45.9	99.7		
4	4.75	3.9	8.8	74	89.7	
8	-2.36	2.6	5.2	49.3	55	
16	1.18	2.2	4.1	35	36	
32	0.6	2.1	~ 3.9	27.7	25	
50	0.3	1.9	3.4	21.9	12	
100	-0.15	1.6	3.1	16.6	5	
100	0.075	1.3	2.3	10.7	2.9	
COLD FEED %	35	26	30	9		

JOB MIX
100
98
85
68
53
34
22
15
12
9
7
4.5

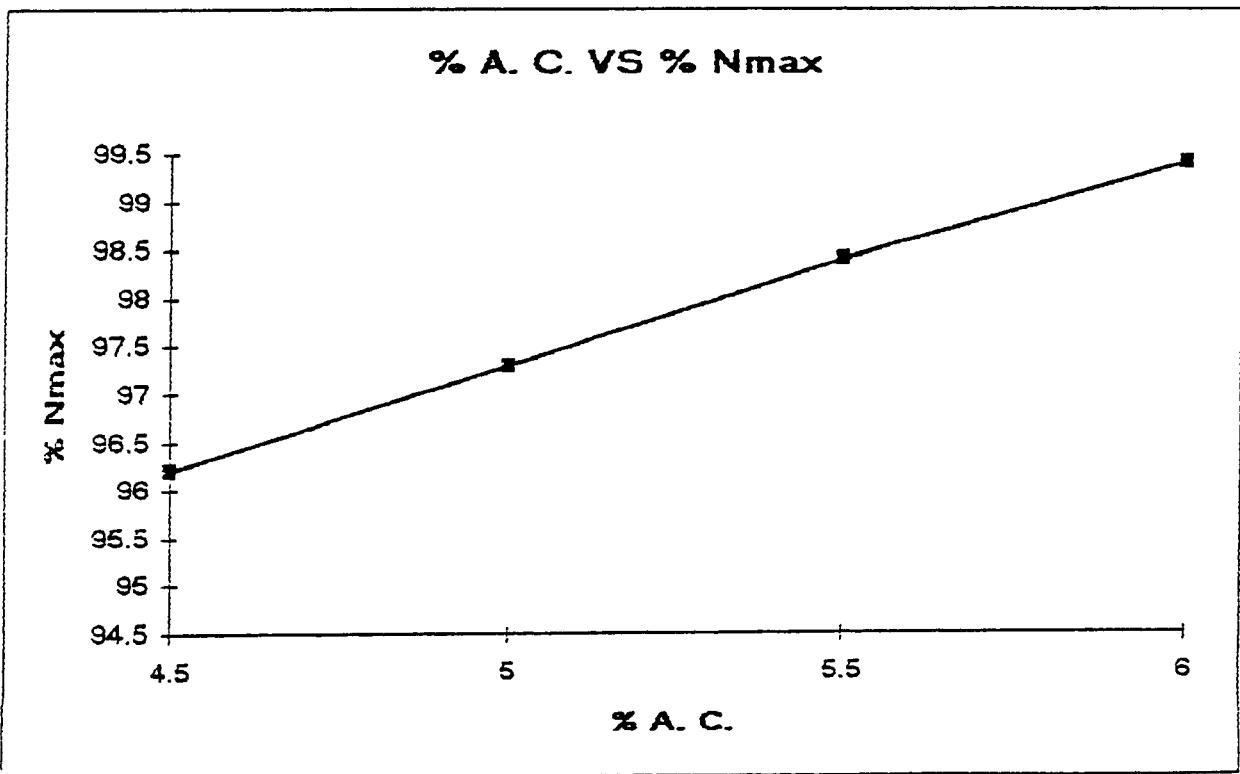
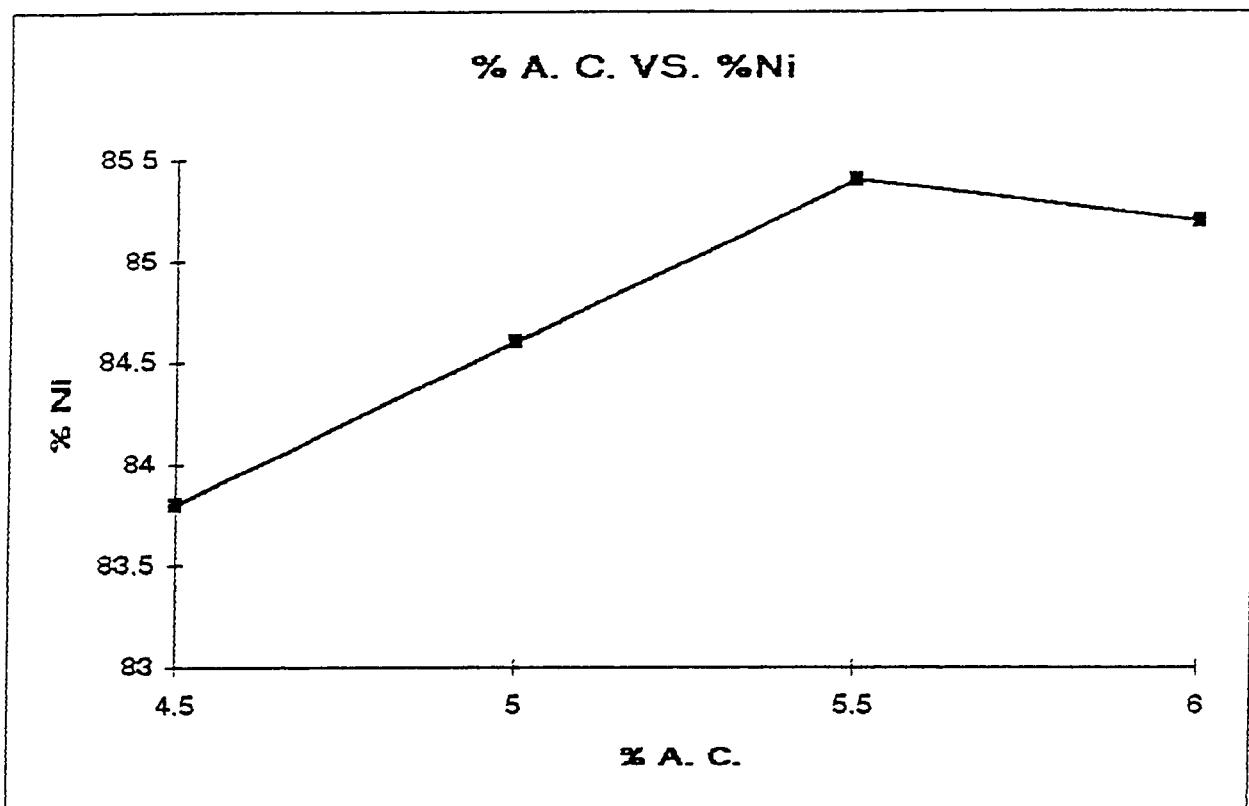
SUMMARY OF MIX COMPACTION PROPERTIES FOR BLEND #

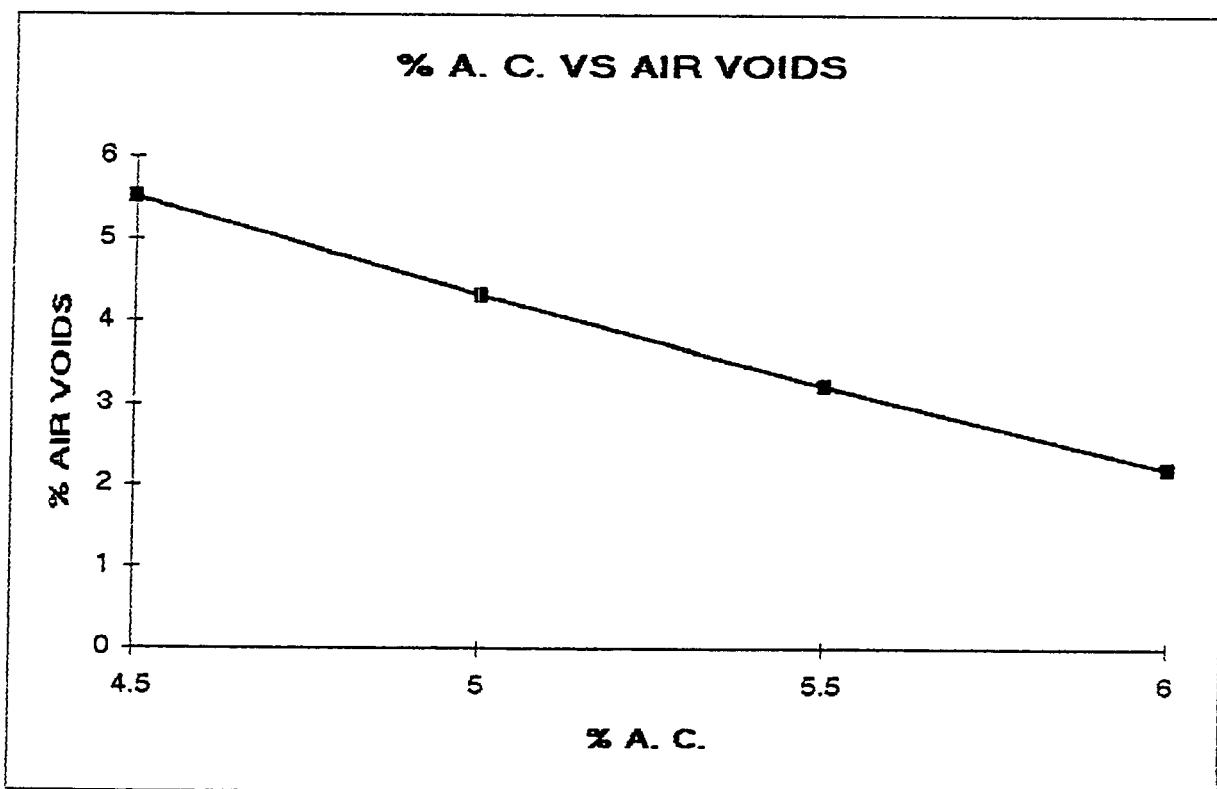
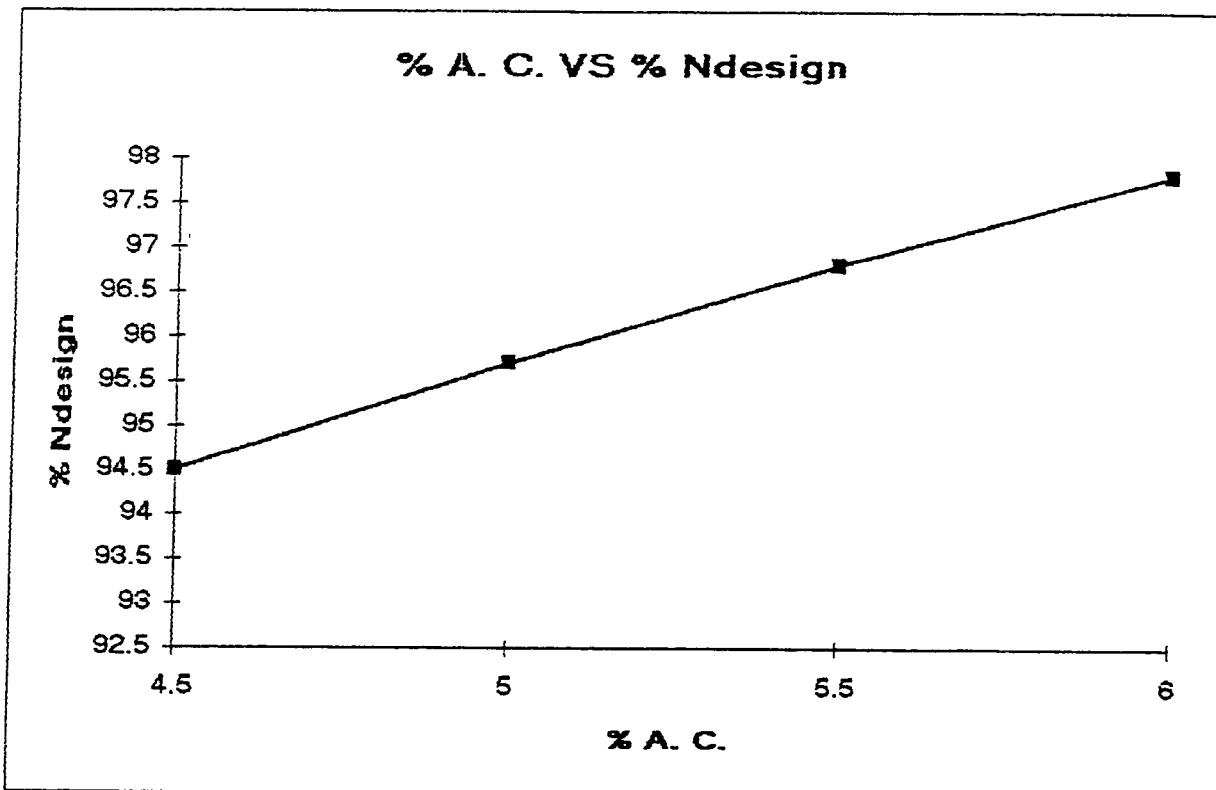
%AC	%Gmm @ Ni	%Gmm @ Nmax	%Gmm @ Nd	% AIR voids	% VMA	%VFA	F/A RATIO
4.5	83.8	96.2	94.5	5.5	15.5	65.6	1
5	84.6	97.3	95.7	4.3	15.6	72.6	0.9
5.5	85.4	98.4	96.8	3.2	15.6	82.9	0.8
6	85.2	99.4	97.8	2.2	15.9	97.7	0.8

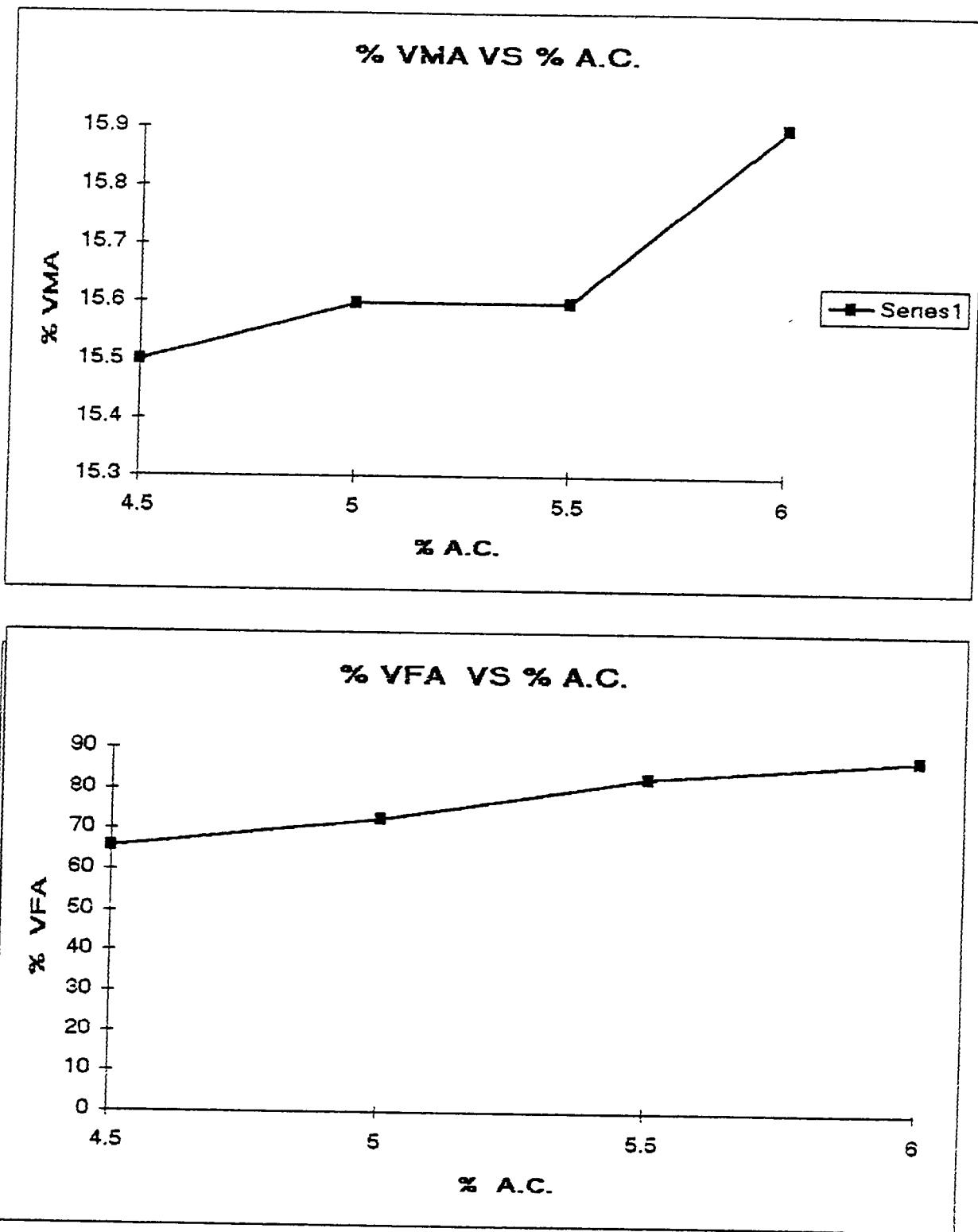
DESIGN ASPHALT CONTENT: 5.1
 THEORE. MAXIMUM SP. GR.(G/mm) 2.434
 ASPHALT BINDER - ERGON PG64-22

MIXING TEMP. 330
 COMPACTATION TEMP. 300

mix be too / nh
 for 64-22
 binder.







ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

September 16, 1996

E. C. Rowlett Construction Co. Inc.
P O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
(Rehab)
State

Gentlemen.

We have reviewed the mix design for 25mm SUPERPAVE Volumetric Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,

Jerry L. Westerman
for Jim Gee
Engineer of Materials

cc: Resident Engineer 23
District 2 Engineer
Inspector c/o Resident Engineer 23
District 2 Materials Supervisor
Design Lab ✓

DESIGN
ACCEPTED

SEP 17 1996

ENGR. OF MATERIALS
LAB # · SP4-96 BY _____
u/w

ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT
 SUPERPAVE VOLUMETRIC MIX DESIGN
 MAXIMUM NUMBER OF DESIGN GYRATIONS 169

25MM NOMINAL SIZE MIX

LAB NO SP4-96

JOB NO R20138

Binder Mix
050960

PLANT NAME: ROWLETT

LOCATION: CRYSTAL HILL

MATERIAL SOURCES

AGGR #	SOURCE	LOCATION
1 1/4"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
5/8"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SCRNS	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
IND SA	GRANITE MTN QUARRY	SWEET HOME

MATERIAL GRADATIONS (% PASSING)

SIEVE (mm)	AGGR #				COLD FEED %	JOB MIX
	1 1/4"	5/8"	SCRNS	IND SA		
37.5	100	100	100	100		100
25	93.1	100	100	100		98
19	56.6	100	100	100		85
12.5	14.3	92.4	100	100		68
9.5	6.8	45.9	99.7	100		53
4.75	3.9	8.8	74	89.7		34
2.36	2.6	5.2	49.3	55		22
1.18	2.2	4.1	35	35		15
0.6	2.1	3.9	27.7	25		12
0.3	1.9	3.4	21.9	12		9
0.15	1.6	3.1	16.6	5		7
0.075	1.3	2.3	10.7	2.9		4.5
COLD FEED %	35	26	30	9		

JOB MIX
100
98
85
68
53
34
22
15
12
9
7
4.5

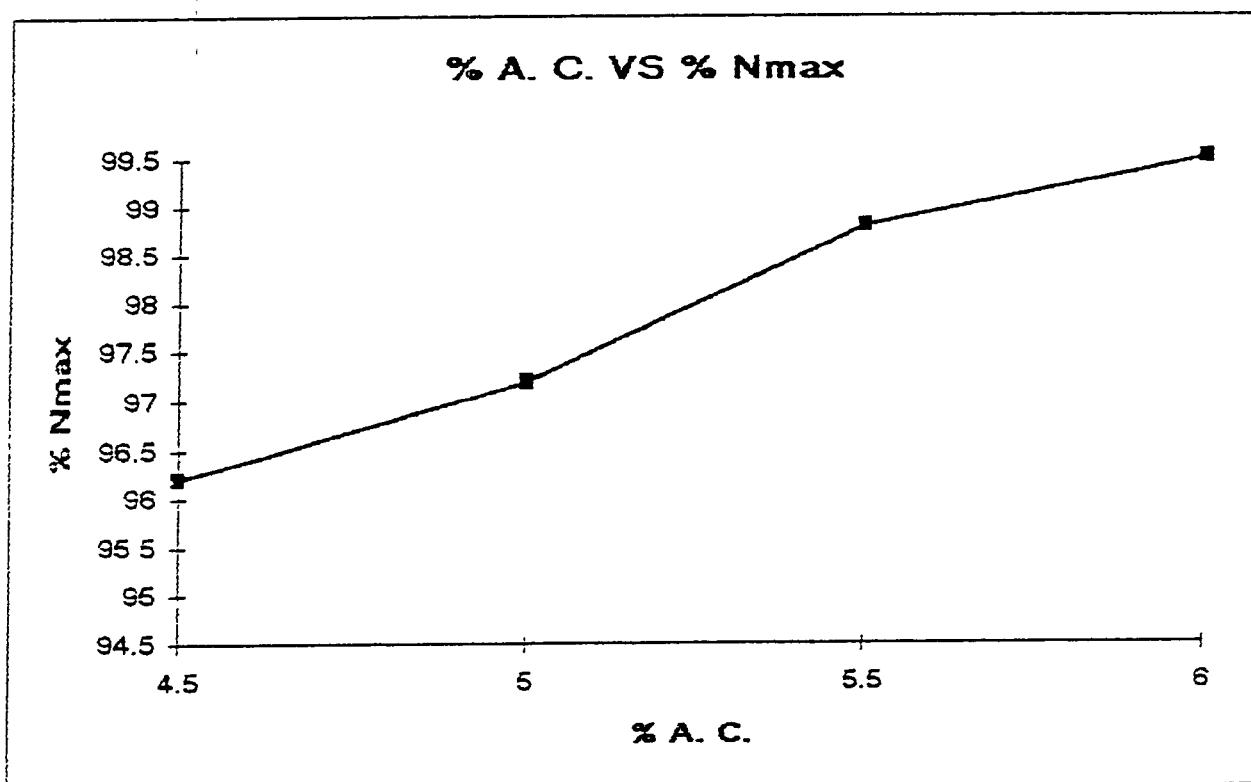
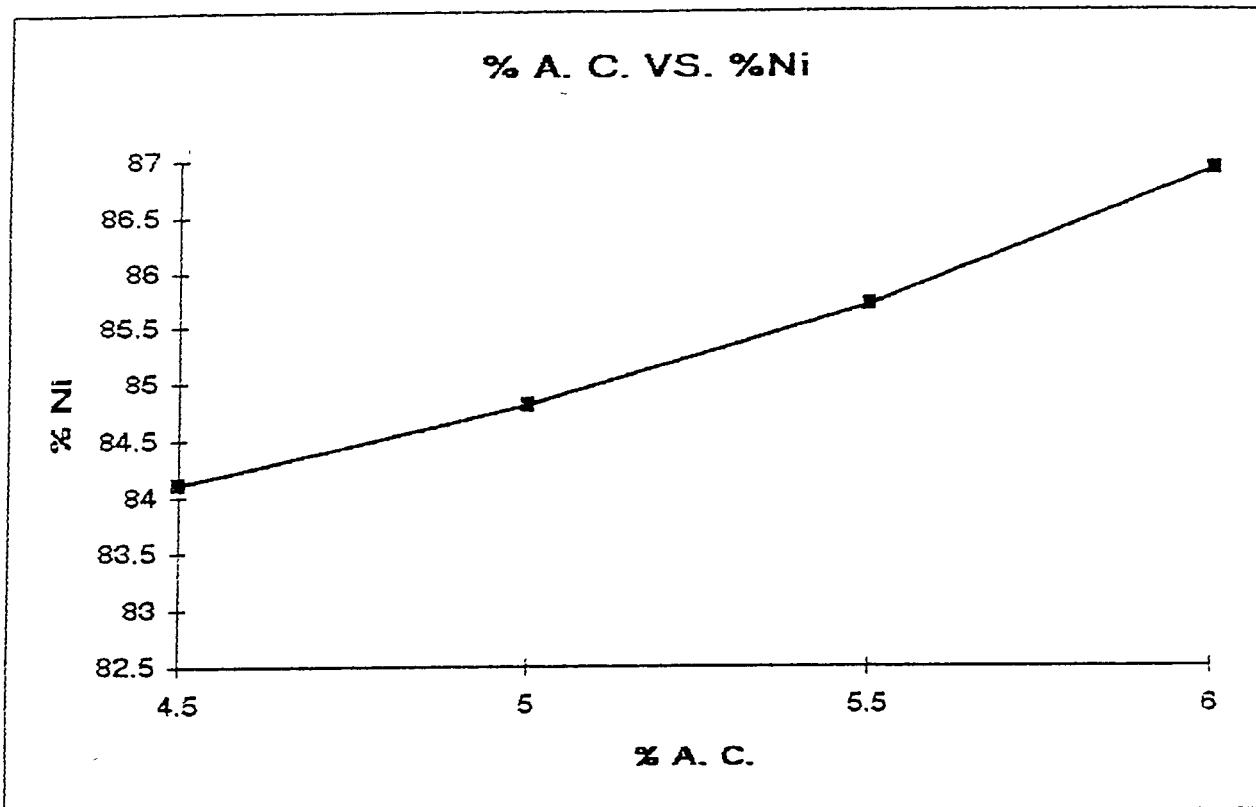
SUMMARY OF MIX COMPACTION PROPERTIES FOR BLEND #

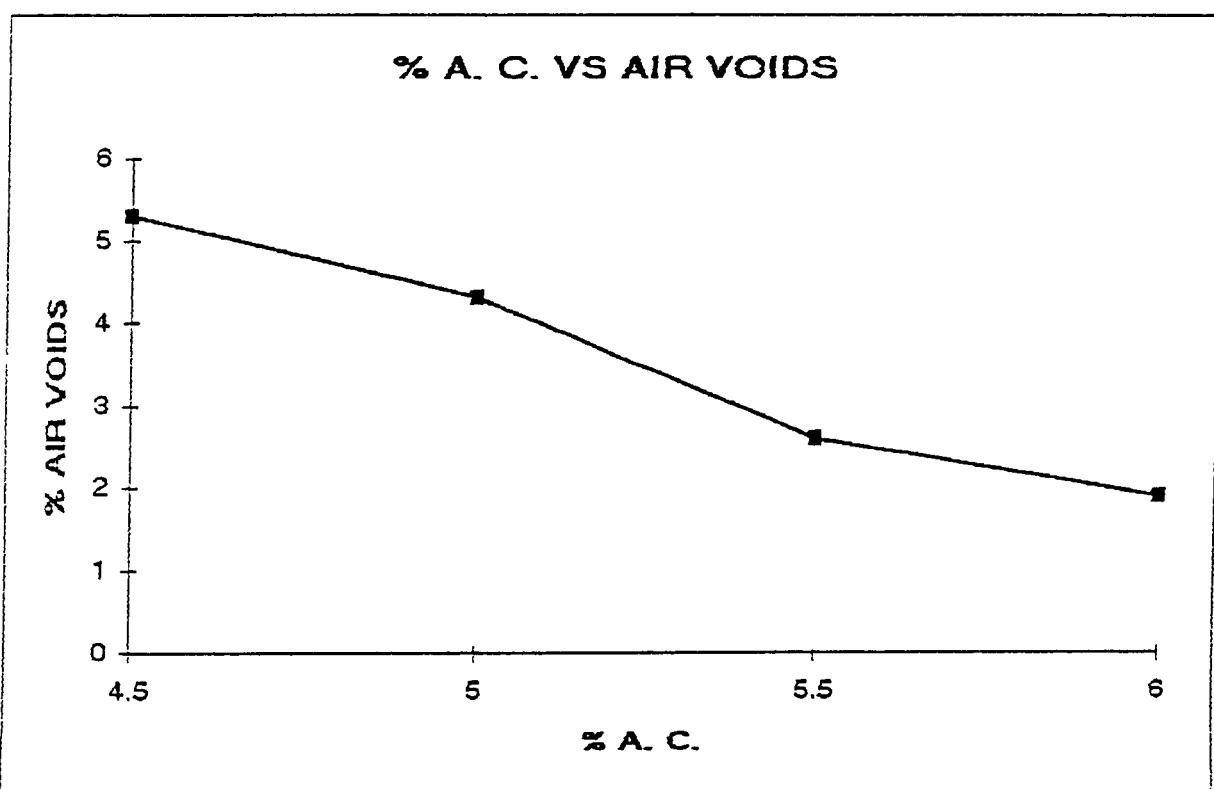
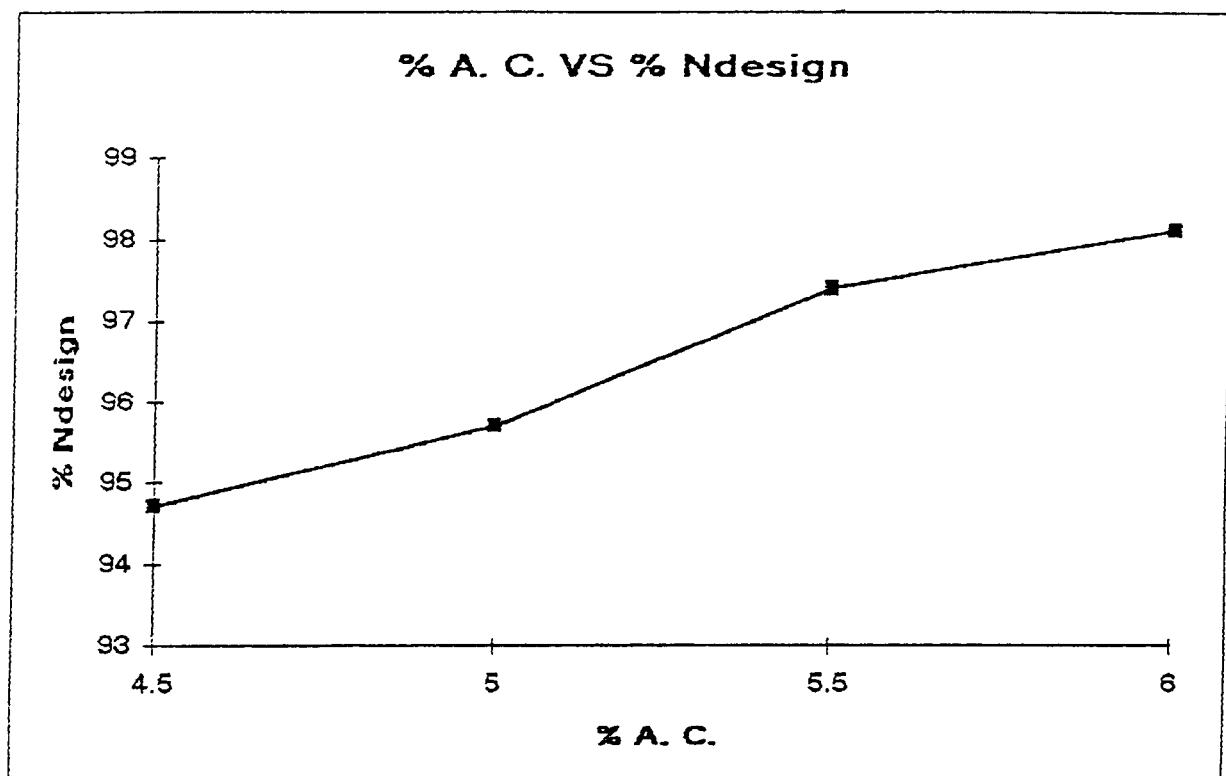
%AC	%Gmm @ Ni	%Gmm @ Nmax	%Gmm @ Nd	% AIR VOIDS	% VMA	%VFA	F/A RATIO
4.5	84.1	96.2	94.7	5.3	15.4	65.6	1
5	84.8	97.2	95.7	4.3	15.5	72.6	0.9
5.5	85.7	98.8	97.4	2.6	15.1	82.9	0.8
6	86.9	99.5	98.1	1.9	15.6	87.7	0.8

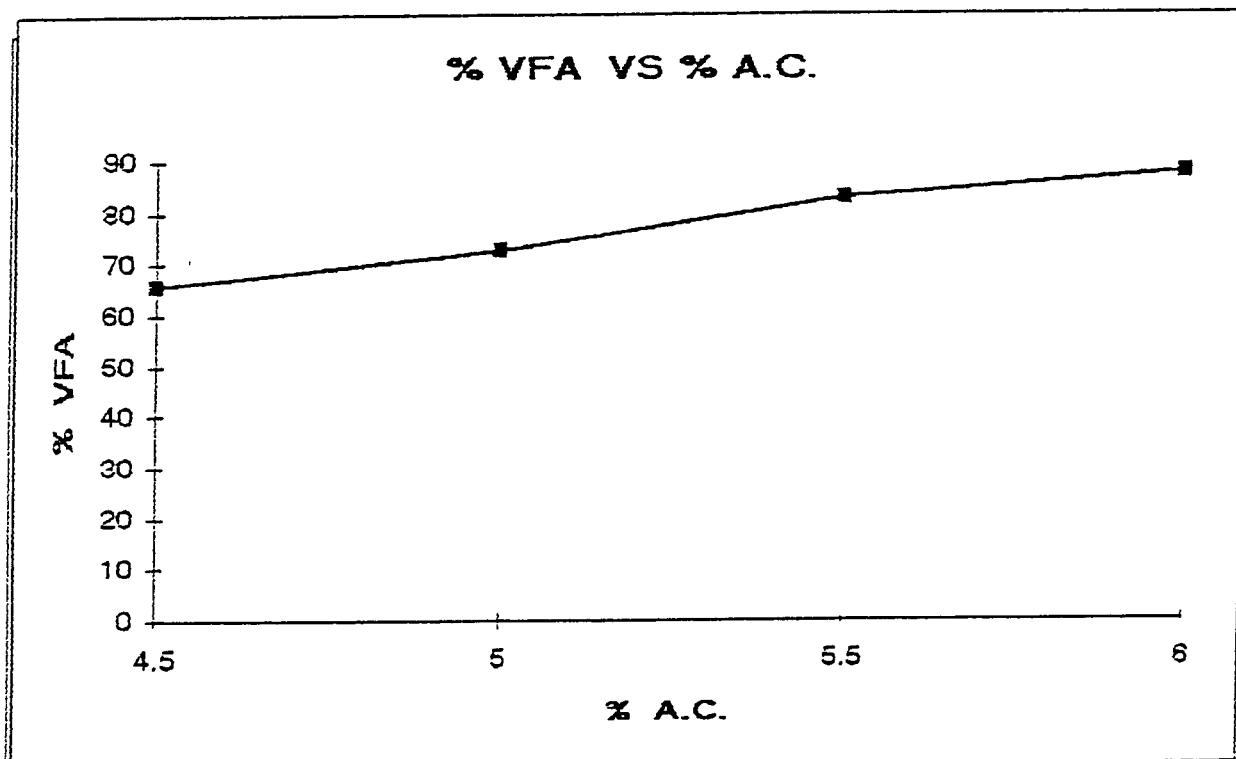
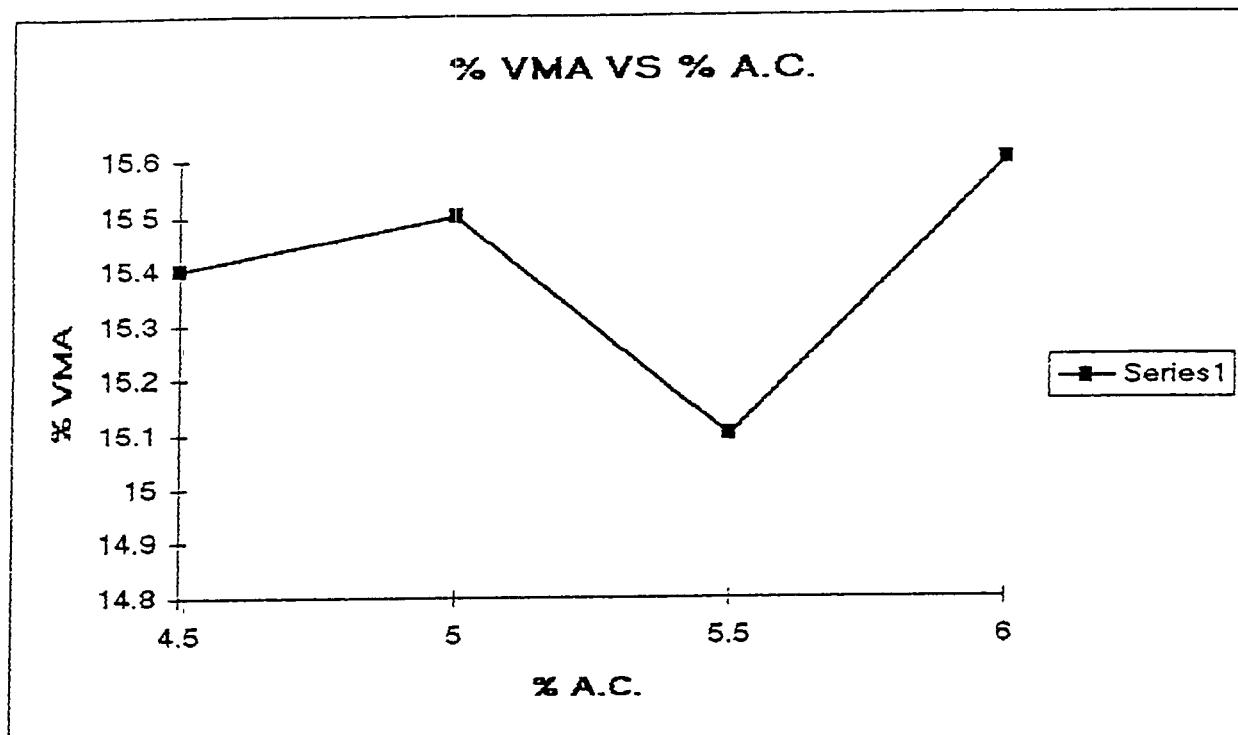
OK

DESIGN ASPHALT CONTENT: 5.1
 THRO. MAXIMUM SP. GR.(Gmm) 2.433
 ASPHALT BINDER - ERGON PG70-22

MIXING TEMP. 330
 COMPACTION TEMP. 300







ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P O Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

September 26, 1996

E. C. Rowlett Const. Co. Inc.
P. O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
State

Gentlemen:

We have reviewed the Superpave 25MM Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,

Jerry L. Westerman
for Jim Gee
Engineer of Materials

DESIGN
ACCEPTED

cc: Resident Engineer 23
Inspector c/o Resident Engineer 23
District 2 Engineer
District 2 Materials Supervisor
~~Design Lab~~

SEP 2 1996

ENGR. OF MATERIALS

LAB # : SP6-96

ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT
 SUPERPAVE VOLUMETRICMIX DESIGN
 MAXIMUM NUMBER OF DESIGN GYRATIONS 169
25MM NOMINAL SIZE MIX

JOB NO.R20158

050903
Binder Mix

LAB NO:SP6-96

PLANT NAME:ROWLETT

LOCATION: CRYSTAL HILL

MATERIAL SOURCES

AGGR #	SOURCE	LOCATION
1 1/4"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
5/8"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SCRNS	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
IND SA	GRANITE MTN QUARRY	SWEET HOME

MATERIAL GRADATIONS (% PASSING)

SIEVE (mm)	AGGR #					COLD FEED %	JOB MIX
	1 1/4"	5/8"	SCRNS	IND SA			
37.5	100	100	100	100			
25	93.1	100	100	100			
19	56.6	100	100	100			
12.5	14.3	92.4	100	100			
9.5	6.8	45.9	99.7	100			
4.75	3.9	8.8	74	89.7			
2.36	2.6	5.2	49.3	55			
1.18	2.2	4.1	35	35			
0.6	2.1	3.9	27.7	25			
0.3	1.9	3.4	21.9	12			
0.15	1.6	3.1	16.6	5			
0.075	1.3	2.3	10.7	2.9			
COLD FEED %	35	26	30	9			

JOB MIX
100
98
85
68
53
34
22
15
12
9
7
4.5

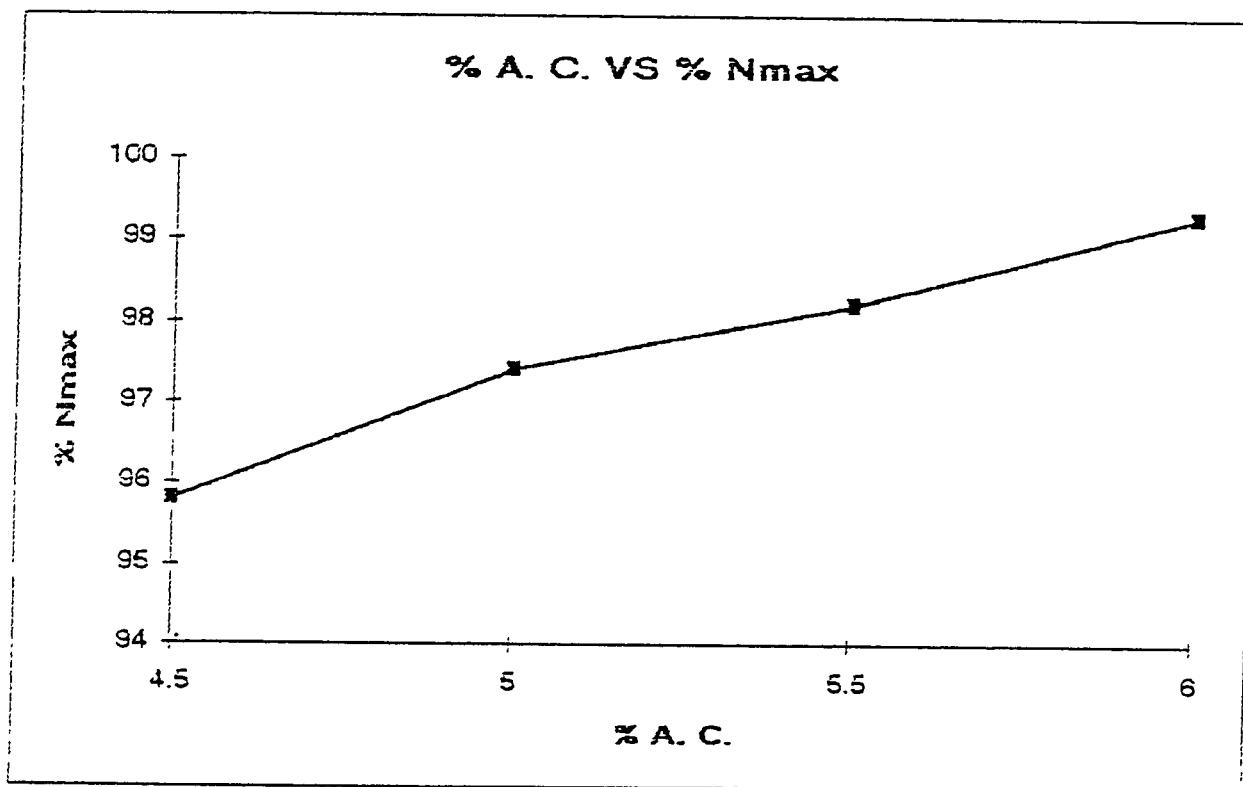
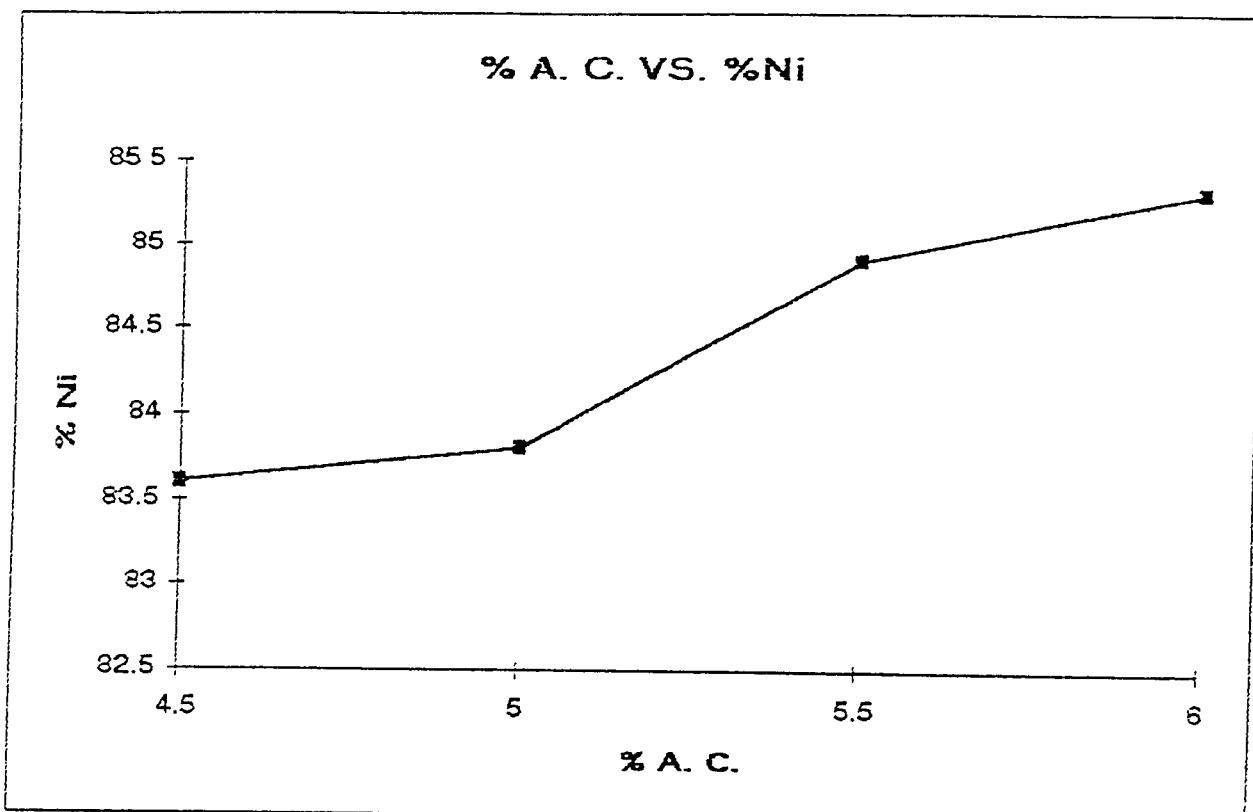
SUMMARY OF MIX COMPACTION PROPERTIES FOR BLEND

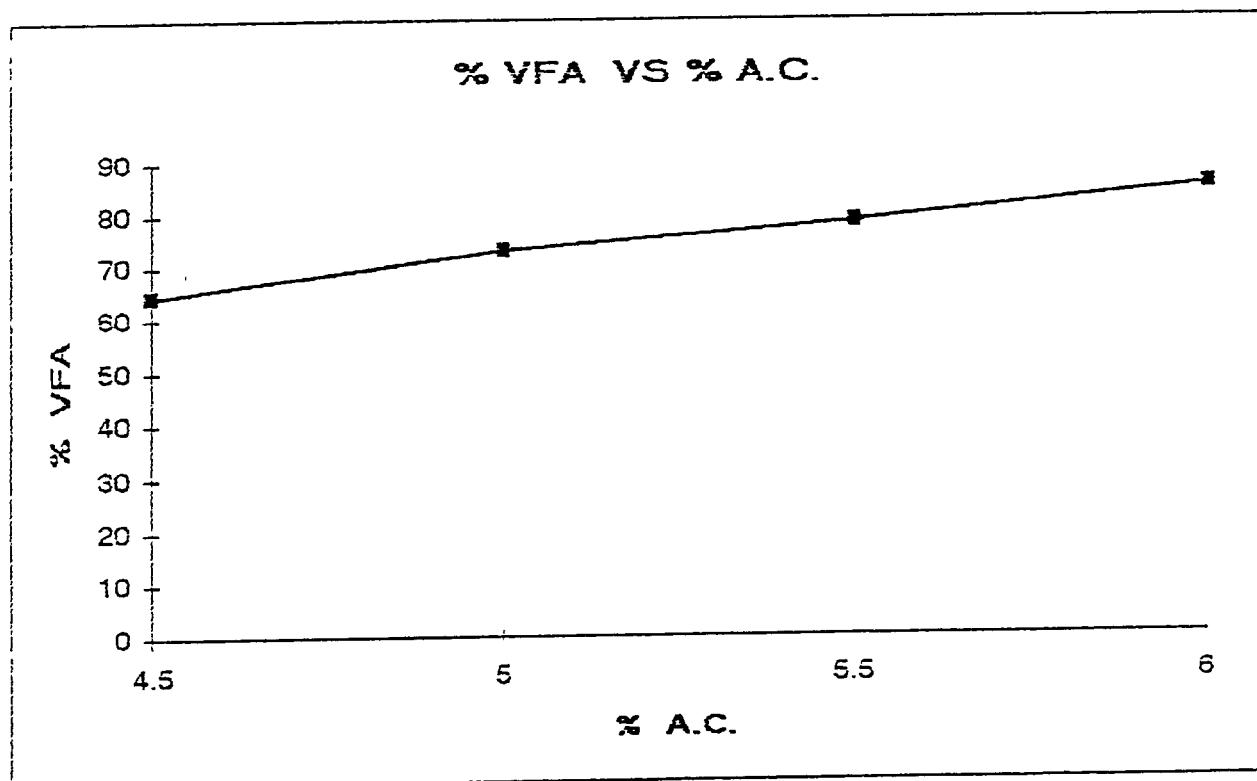
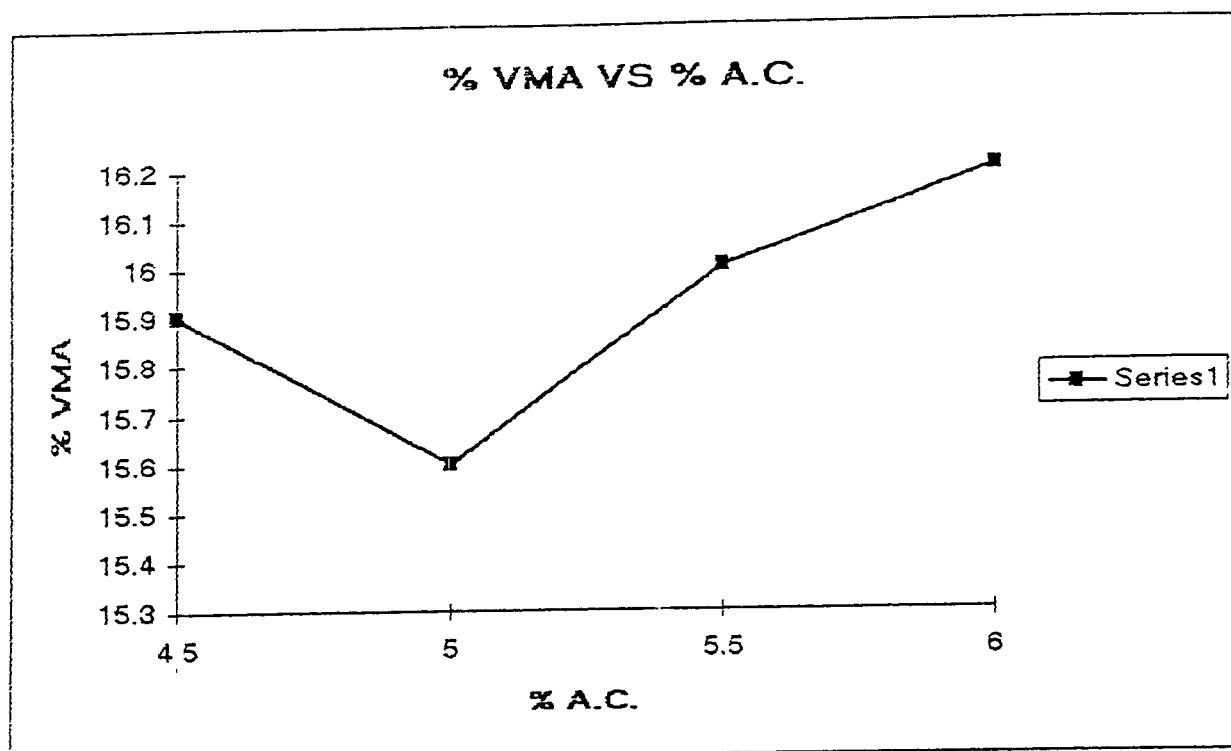
%AC	%Gmm @ Ni	%Gmm @ Nmax	%Gmm @ Nd	% AIR VOIDS	% VMA	%VFA	F/A RATIO
4.5	83.6	96.8	94.3	5.7	15.9	64.1	1
5	83.8	97.4	95.8	4.2	15.6	73	0.9
5.5	84.9	98.2	96.5	3.5	16	78.3	0.8
6	85.3	99.3	97.6	2.4	16.2	85	0.7

DESIGN ASPHALT CONTENT: 5.1
 THEORE. MAXIMUM SP. GR.(G/mm) 2.44
 ASPHALT BINDER - LION PG58-22

MIXING TEMP. 330
 COMPACTATION TEMP. 300

probably too h
 for 58-22





ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Dan Flowers
Director
Telephone (501) 569-2000



P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400

October 14, 1996

E. C. Rowlett Const. Co. Inc.
P O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
State

Gentlemen:

We have reviewed the Superpave 12.5MM Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,
Henry Westerman
H.W. Jim Gee
Engineer of Materials

cc: Resident Engineer 23
Inspector c/o Resident Engineer 23
District 2 Engineer
District 2 Materials Supervisor
Design Lab

D E S I G N
A C C E P T E D

OCT 14 1996

ENGR. OF MATERIALS

LAB # : SP7-96

SP7-96 XLS

ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT
 SUPERPAVE VOLUMETRIC MIX DESIGN
 MAXIMUM NUMBER OF DESIGN GYRATIONS 169
 12.5MM NOMINAL SIZE MIX

050903
 surface mix

LAB NO SP7-96

JOB NO R20138

PLANT NAME: ROWLETT
 LOCATION: CRYSTAL HILL
 MATERIAL SOURCES

AGGR.#	SOURCE	LOCATION
5/8"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SCRNS	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SAND	JEFFERY SAND	NORTH LITTLE ROCK
1/2"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
IND SA	GRANITE MTN QUARRY	SWEET HOME

MATERIAL GRADATIONS (% PASSING)

SIEVE (mm)	ACGR #	3/8"	Jeff				JOB MIX
			5/8"	SCRNS	SAND	1/2"	
37.5	100	100	100	100	100	100	100
25	100	100	100	100	100	100	100
19	100	100	100	100	100	100	100
12.5	92.4	100	100	100	100	100	97
9.5	45.9	99.7	100	65.6	100		75
4.75	5.6	74	100	3.5	89.7		45
2.36	5.2	49.3	99.5	2.3	55		31
1.18	4.1	35	97.5	2.2	35		23
0.6	3.9	27.7	81.9	2.1	25		18
0.3	3.4	21.9	37.3	2.1	12		11
0.15	3.1	16.6	2.4	2	5		7
0.075	2.3	10.7	0.3	1.9	2.9		4.4
COLD FEED %		40	25	5	10	20	

JOB MIX
100
100
100
97
75
45
31
23
18
11
7
4.4

SUMMARY OF MIX COMPACTION PROPERTIES FOR BLEND

%AC	%Gmm @ Ni	%Gmm @ Nmax	%Gmm @ Nd	% AIR VOIDS	% VMA	%VFA	F/A RATIO
4.5	84.6	95	93.7	6.3	16.4	61.7	1
5	86.1	97.2	95.3	4.2	15.6	73.3	0.9
5.5	86.2	97.9	96.5	3.5	16.1	78.1	0.8
6	87.4	99.2	97.8	2.2	15.9	86.5	0.7

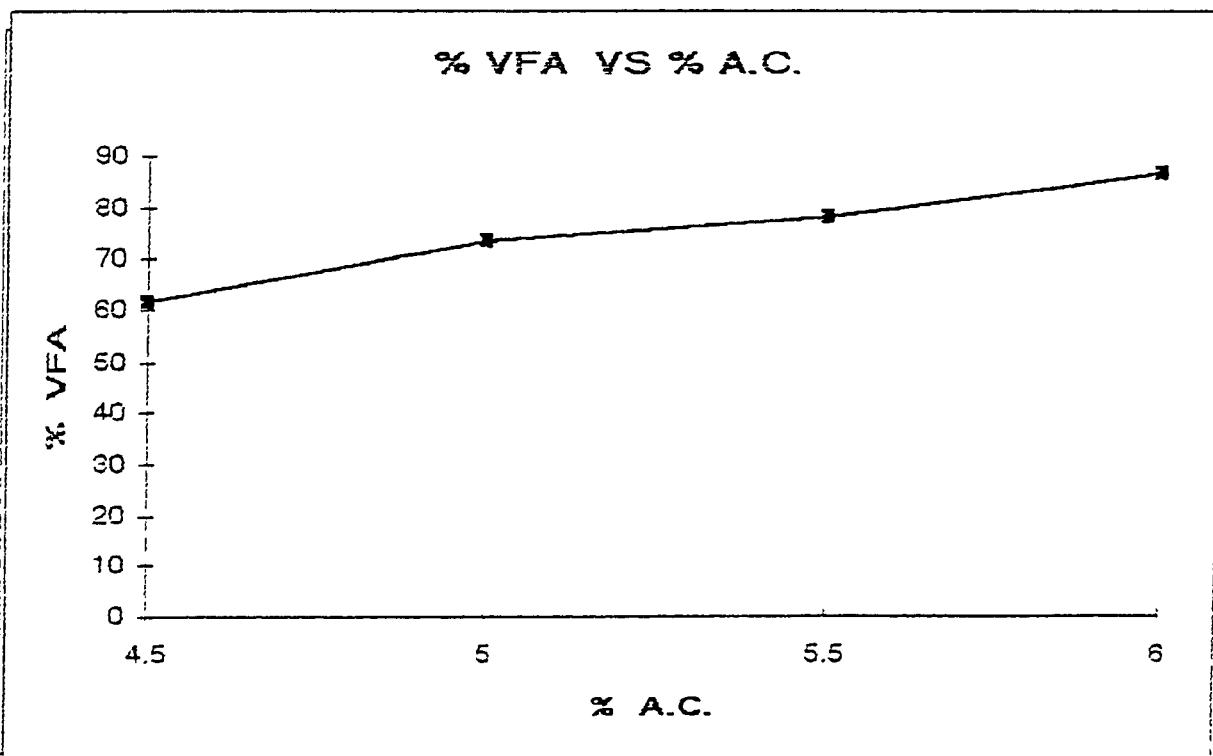
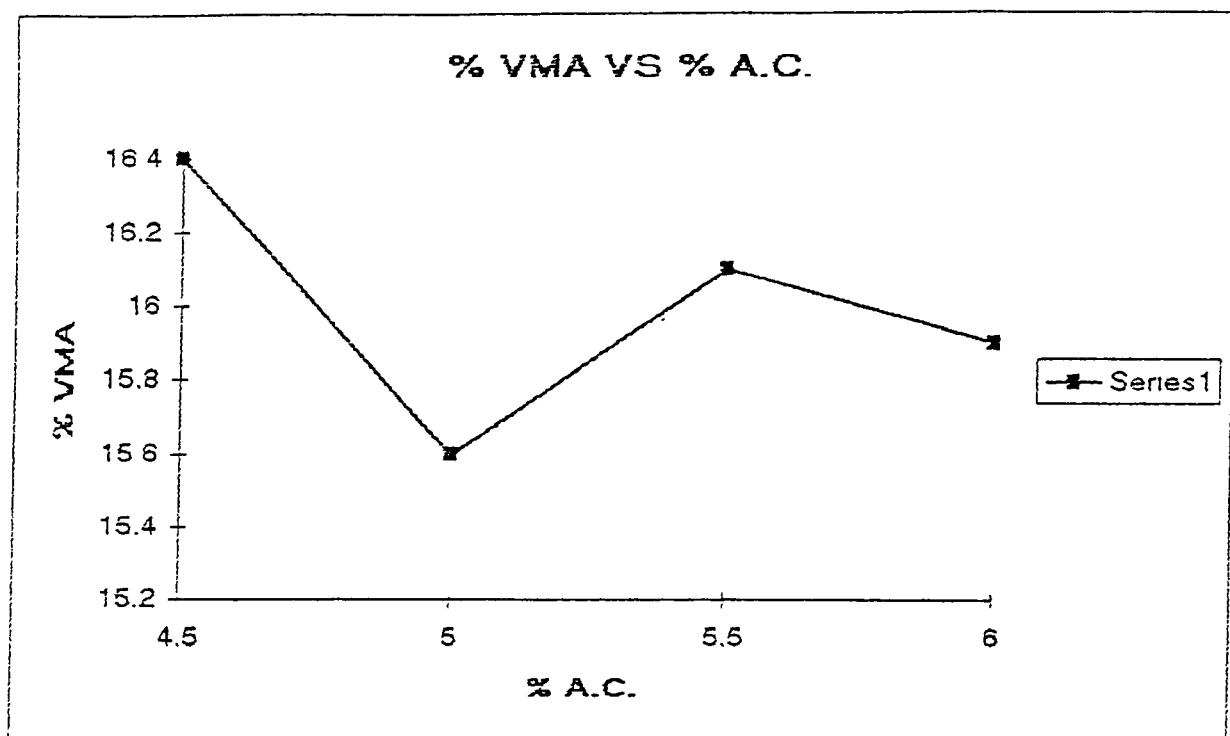
DESIGN ASPHALT CONTENT: 5.1

MIXING TEMP :320

THEORE. MAXIMUM SP. GR.(G/mm) 2.445

COMPACTION TEMP.:300

ASPHALT BINDER - LION (PG58-22)



ARKANSAS STATE HIGHWAY
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October 15, 1996

E. C. Rowlett Const. Co. Inc.
P. O. Box 150
Guy AR 72061

Job : R20138
Pulaski Co. Line - Redfield
State

Gentlemen.

We have reviewed the Superpave 12.5MM Mix Design submitted by you for use on the above project. We will allow its use on this project.

Yours truly,
Larry L. Westerman
Jim Gee
Engineer of Materials

cc: Resident Engineer 23
Inspector c/o Resident Engineer 23
District 2 Engineer
District 2 Materials Supervisor
Design Lab

D E S I G N
A C C E P T E D

OCT 15 1996

ENGR. OF MATERIALS

LAB # : SP8-96

ARKANSAS HIGHWAY & TRANSPORTATION DEPARTMENT
SUPERPAVE VOLUMETRIC MIX DESIGN
MAXIMUM NUMBER OF DESIGN GYRATIONS: 169

12.5MM NOMINAL SIZE MIX

LAB NO SF3-96

JOB NO R20165

0509 60
surface mix

PLANT NAME: ROWLETT

LOCATION: CRYSTAL HILL

MATERIAL SOURCES

AGGR.#	SOURCE	LOCATION
5/8"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
SCRNS	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
1/2"	CRYSTAL HILL QUARRY	NORTH LITTLE ROCK
IND SA	GRANITE MTN QUARRY	SWEET HOME

MATERIAL GRADATIONS (% PASSING)

SIEVE (mm)	AGGR #				COLD FEED %
	5/8"	SCRNS	1/2"	IND SA	
37.5	100	100	100	100	
25	100	100	100	100	
19	100	100	100	100	
12.5	92.4	100	100	100	
9.5	45.9	99.7	66.6	100	
4.75	6.8	74	3.5	69.7	
2.66	5.2	49.3	2.3	55	
1.19	4.1	36	2.2	35	
0.6	3.9	27.7	2.1	26	
0.3	3.4	21.9	0.1	12	
0.15	2.1	16.6	2	5	
0.075	2.3	10.7	1.9	2.9	

JOB MIX
100
100
100
97
75
45
29
20
16
11
81
53

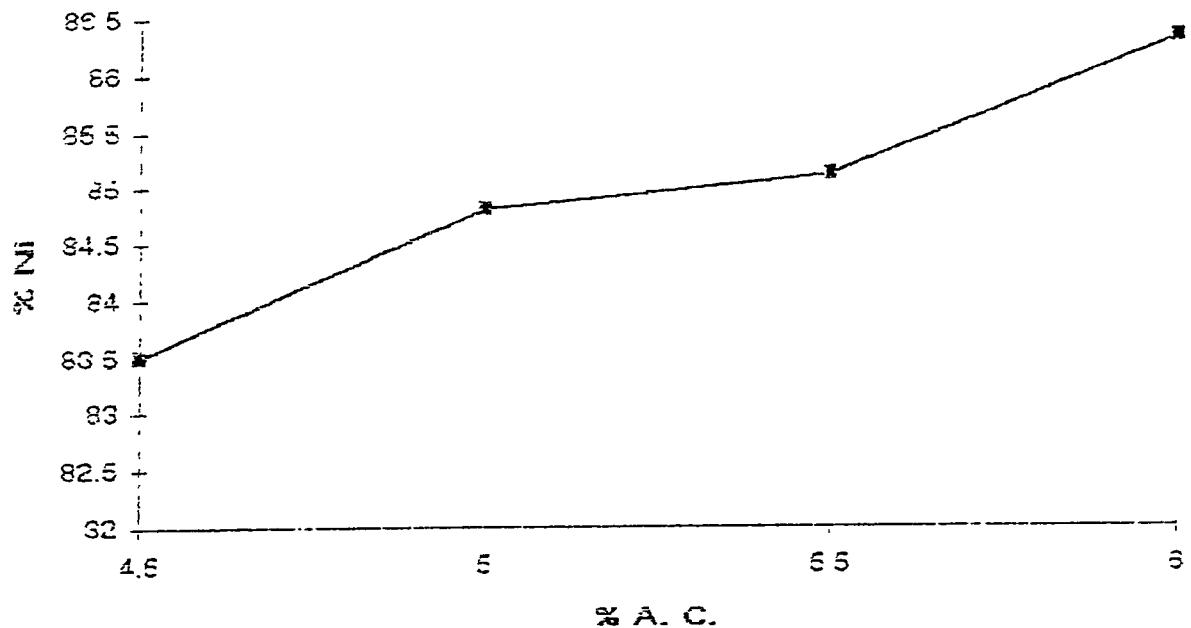
SUMMARY OF MIX COMPACTION PROPERTIES FOR BLEND

KAC	%Gmm @ N _i	%Gmm @ N _{max}	%Gmm @ N _d	% AIP VOIDS	% V.I.D.	%VFA	FIA FATIGUE
4.5	83.6	95.4	94	6	15.1	62.9	1.2
5	84.6	97.2	95.3	4.2	15.3	73.1	1.1
5.5	85.1	97.9	96.4	3.8	15.1	77.3	1.1
6	86.3	99.1	97.7	2.3	16	85.9	0.9

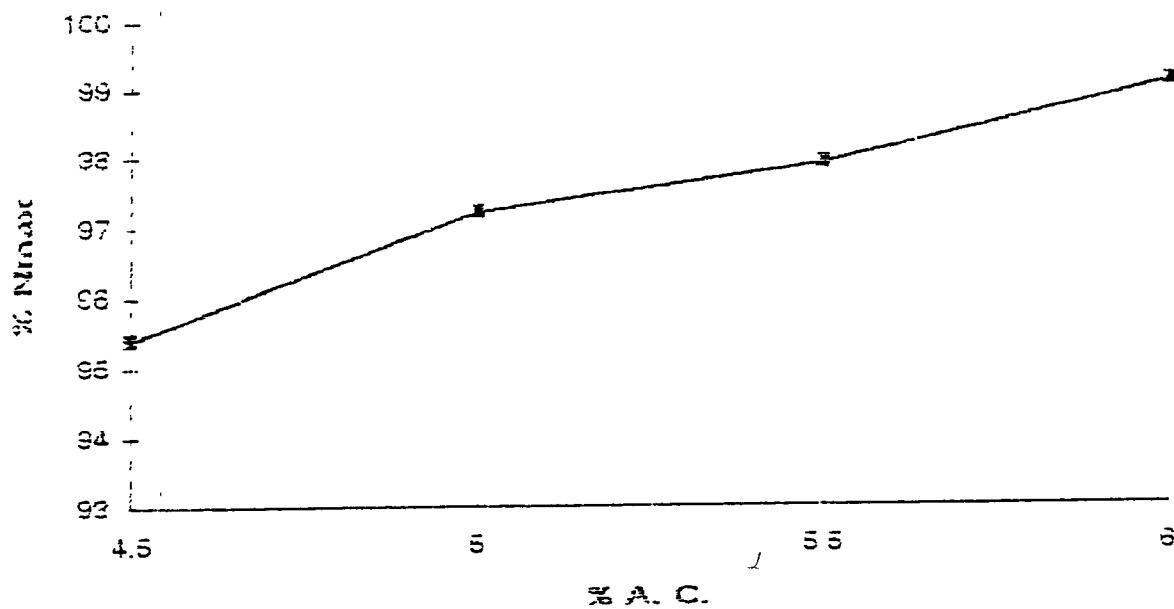
DESIGN ASPHALT CONTENT: 6.1
 THERO. MAXIMUM SP. GR.(G/mm) 2.116
 ASPHALT BINDER - ERGOM (PG70-22)

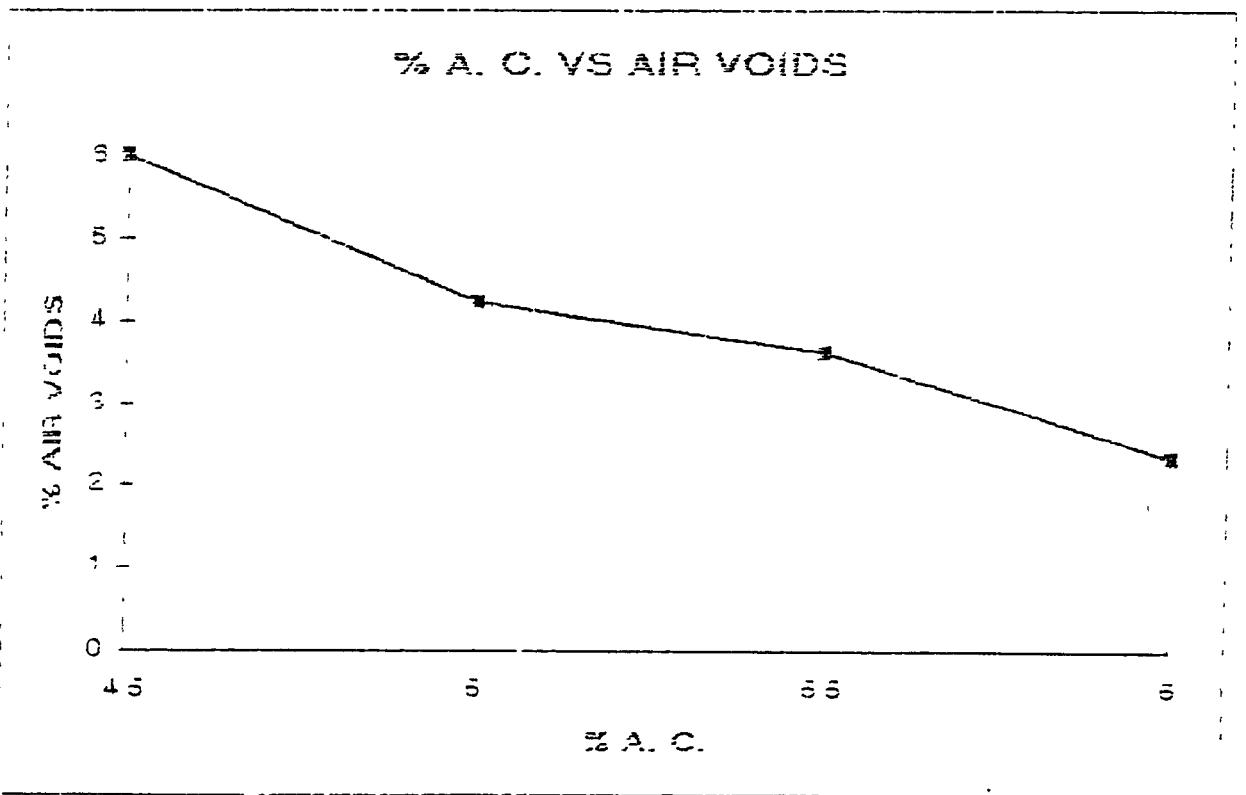
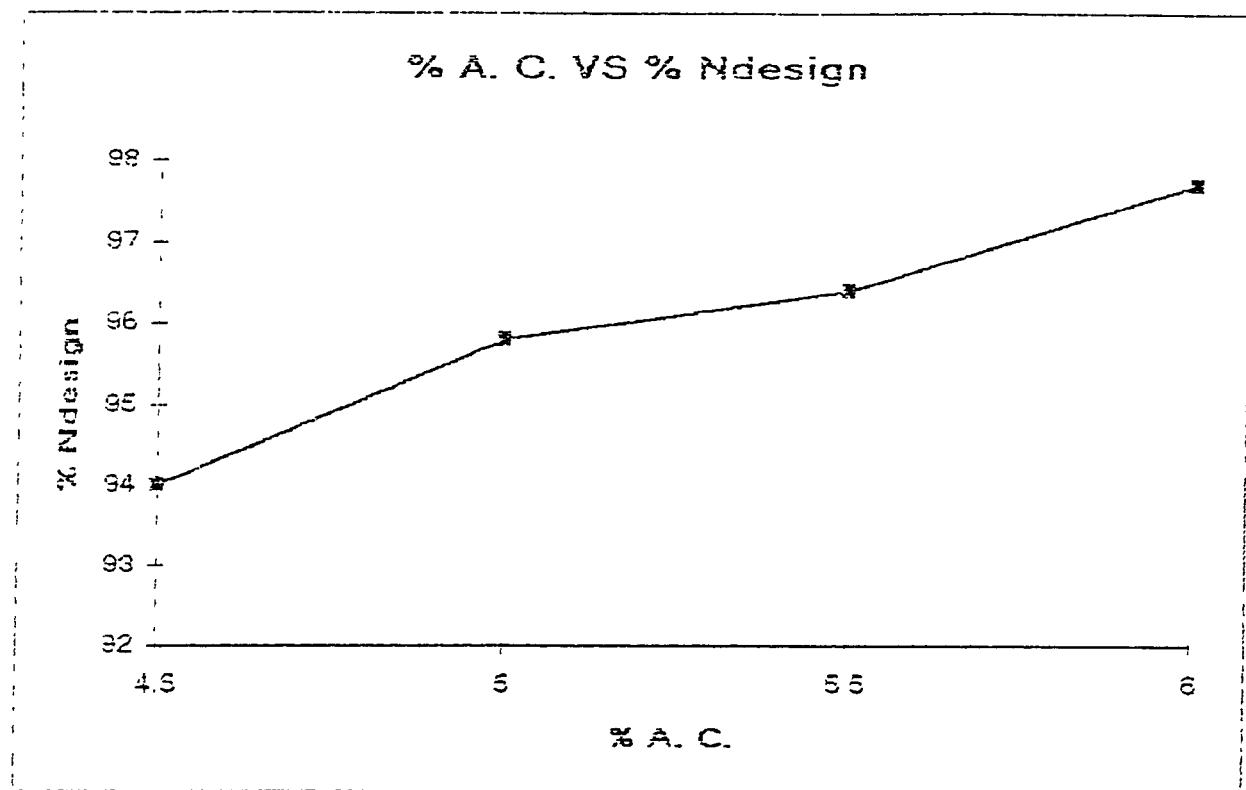
MIXING TEMPERATURE-330
 COMPACTION TEMPERATURE -300

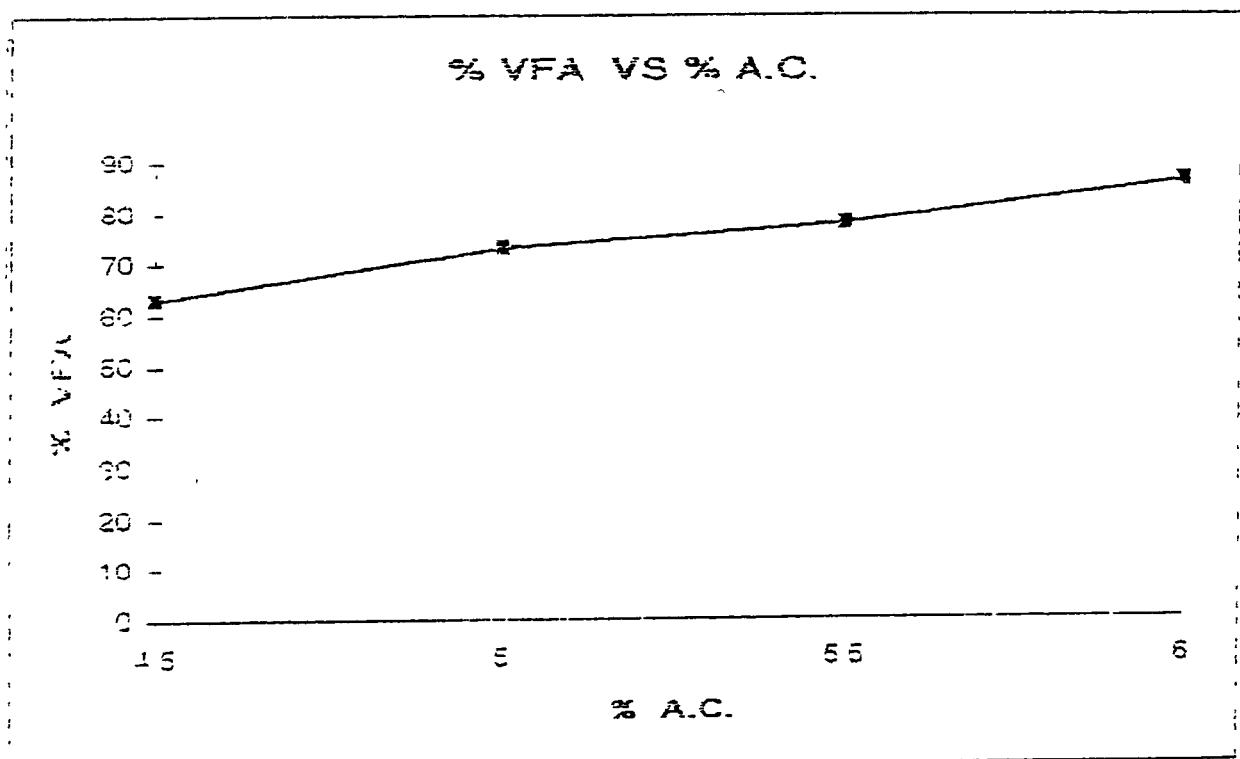
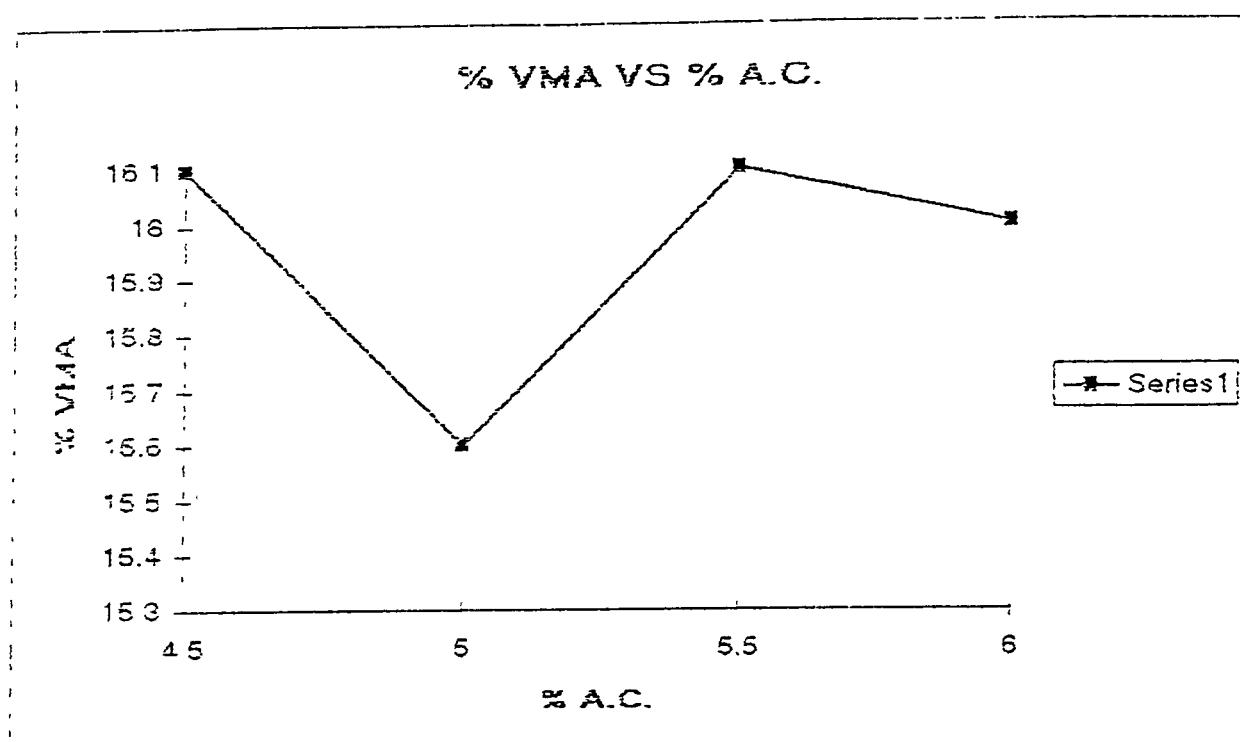
% A. C. VS. %Ni



% A. C. VS % Nmax







APPENDIX C

MATERIALS SAMPLING AND TESTING PLAN

MATERIAL SAMPLING AND TESTING PLAN

**ARKANSAS SPS-9A PROJECT 050900
US-65, SOUTHBOUND
JEFFERSON COUNTY, ARKANSAS**

PREPARED BY:

**BRENT RAUHUT ENGINEERING INC.
FHWA/LTPP SOUTHERN REGION COORDINATION OFFICE
8240 MOPAC, SUITE 220
AUSTIN, TEXAS 78759**

REVISED JUNE 1997

**MATERIAL SAMPLING AND TESTING PLAN
ARKANSAS SPS-9A PROJECT (050900), US-65 SOUTHBOUND
JEFFERSON COUNTY, ARKANSAS**

INTRODUCTION

As part of their participation in the FHWA/LTPP studies, the State of Arkansas will construct an SPS-9A project to validate the SHRP asphalt specification and mix design. This project will consist of four test sections with similar details and materials on US-65, in the southbound lane, in Jefferson County, Arkansas. It is the intent of this document to provide a complete plan for the material sampling, testing, and laboratory material testing that will occur on behalf of this project.

This document has been prepared in accordance with guidelines provided by the Federal Highway Administration entitled "Specific Pavement Studies Material Sampling and Testing Requirements for Experiment SPS-9A, SUPERPAVE™ Asphalt Binder Study, February 1996". Recognizing the apparent variability in the construction of roadway projects, the goal of this effort is to develop a sampling and testing plan for the project materials that will be consistent with other projects in this experiment, and therefore make the information obtained suitable for analysis.

The SPS-9A experiment is the first part of a multi-stage approach to the SPS-9 experiment, "Validation of SHRP Asphalt Specification and Mix Design". The experiment is designed for immediate implementation to provide agencies with hands-on experience with methods and requirements developed under the SHRP program. The primary objectives of SPS-9A are to validate the SHRP binder specifications, to allow direct comparison of asphalt mixtures designed using agency procedures and the newly developed SUPERPAVE™ procedures, and to provide initial data for use in refining the mixture performance models also developed as part of the SHRP research. In order to accomplish these objectives, three basic test sections are included within each project; one using the agency's current mix design, one using the SUPERPAVE™ mix design system, and one using a SUPERPAVE™ alternate binder. Arkansas has elected to use the SUPERPAVE™ mix for general project construction, making the "agency current mix design" section redundant. Therefore, Section 1 has been omitted. In addition, Arkansas is interested in further study of the PG graded binder and has added two supplemental sections to evaluate PG70-22 and PG76-22 binder grades. The SPS-9A experiment requires the construction of test sections at a given project with similar details, materials, and construction quality. It is anticipated that some variation between sections will exist. The purpose of the sampling and testing plan is to provide the information necessary to evaluate such variations and their effect on performance.

This sampling and testing plan has been developed by Brent Rauhut Engineering, Inc. the Southern Region Coordination Office under contract to the Federal Highway Administration. If, during the construction activities, any questions arise regarding the sampling and/or testing to be conducted, one should first coordinate these questions with the Arkansas State Highway and Transportation Department (ARSHTD), who may refer them to the Southern Region Coordination Office (SRCO).

This document has been prepared in four distinct parts, each covering a particular area of this rather formidable exercise. The sections are:

- A. General Layout Information
- B. Materials Sampling and Testing - Preconstruction
- C. Materials Sampling and Testing - During Construction
- D. Materials Sampling and Testing - Postconstruction
- E. Sampling Location and Numbering Designations
- F. Sampling and Testing Summary

"Preconstruction" sampling activities are defined as those occurring for the purpose of defining existing conditions and material properties prior to placement of the overlay. "During construction" activities begin once material production and placement activities are underway, and continue through the coring activities at time $t = 0$ (to be explained in Section C). "Postconstruction" sampling and testing activities include sampling of the overlay materials over time (cores) to document changes in material properties. Specific samples to be obtained and laboratory testing needs for each sample are defined for each of these time periods in Sections B, C and D, respectively.

SECTION A

GENERAL LAYOUT INFORMATION

SECTION A

GENERAL LAYOUT INFORMATION

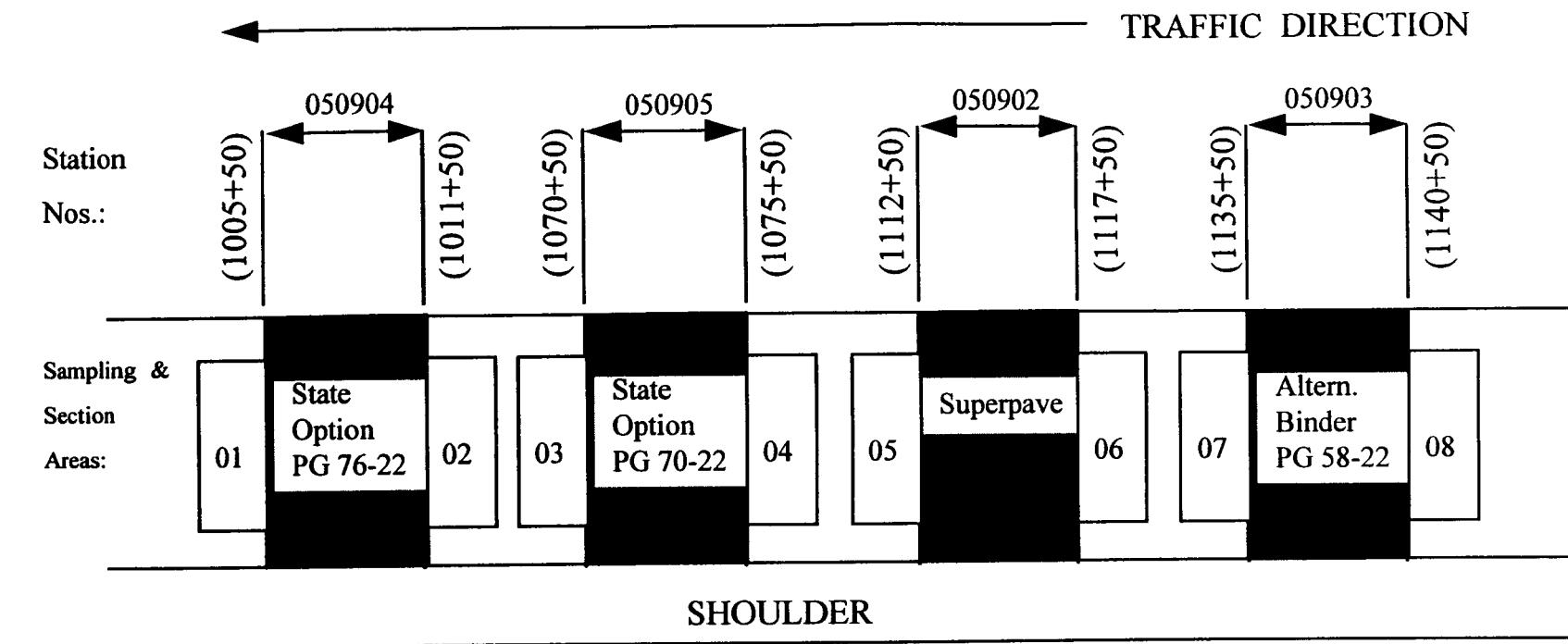
This section of the plan provides a description of the SPS-9A project in terms of the location of the test sections along the roadway. Table A-1 lists the test sections in order of project stationing, providing an indication of the overlay mix to be used.

Figure A-1 depicts the layout of the test sections along the roadway and shows the placement of each material type and the location of each test section within the material placement.

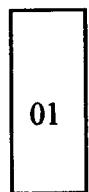
The referenced project stationing was provided by the Arkansas SHTD. If there are significant changes in alignment or stationing, this plan should be reviewed closely to determine if revisions are warranted.

TABLE A-1. TEST SECTION LAYOUT

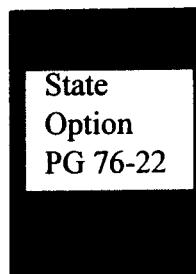
Section Number	Overlay Material	Begin Station	End Station
050904	State Option (PG76-22)	1005+50	1010+50
050905	State Option (PG70-22)	1070+50	1075+50
050902	SUPERPAVE™ Mix (PG64-22)	1112+50	1117+50
050903	SUPERPAVE™ Mix w/Alt. Binder (PG58-22)	1135+50	1140+50



Legend:



Sampling Area (SA) & No.



Section Area & No.

**FIGURE A-1. LAYOUT OF TEST SECTIONS
ARKANSAS SPS-9A (050900)**

SECTION B

MATERIAL SAMPLING AND TESTING

PRECONSTRUCTION

SECTION B

MATERIAL SAMPLING AND TESTING

PRECONSTRUCTION

This section of the plan provides for the material sampling and testing activities that occur prior to construction. As the Arkansas SPS-9A project will be an overlay, the objective of this sampling will be to confirm the type and thickness of existing pavement materials and obtain samples of the subgrade for classification testing.

Table B-1 provides the scope of preconstruction material sampling. As may be seen, only minimal sampling is proposed, consisting of cores of the existing portland cement concrete, visual observation of the existing base materials and sampling of the subgrade. There are a total of 8 sampling locations, numbered A1 through A8. The sampling locations are shown in Figure B-1.

Samples that are obtained should be labeled accordingly and wrapped in protective wrapping to prevent damage in transit. Sample labels will be provided by the Southern Region Coordination Office, who will have a representative on site to assist with the sampling and data collection activities. Plastic, resealable bags should be used for subgrade samples, to retain the moisture content for testing. Bubble-wrap or similar material should be used to protect the core samples.

All laboratory testing for the preconstruction samples will be conducted by the Arkansas SHTD or their Designee. Table B-2 provides an indication of the laboratory tests to be performed on the preconstruction samples.

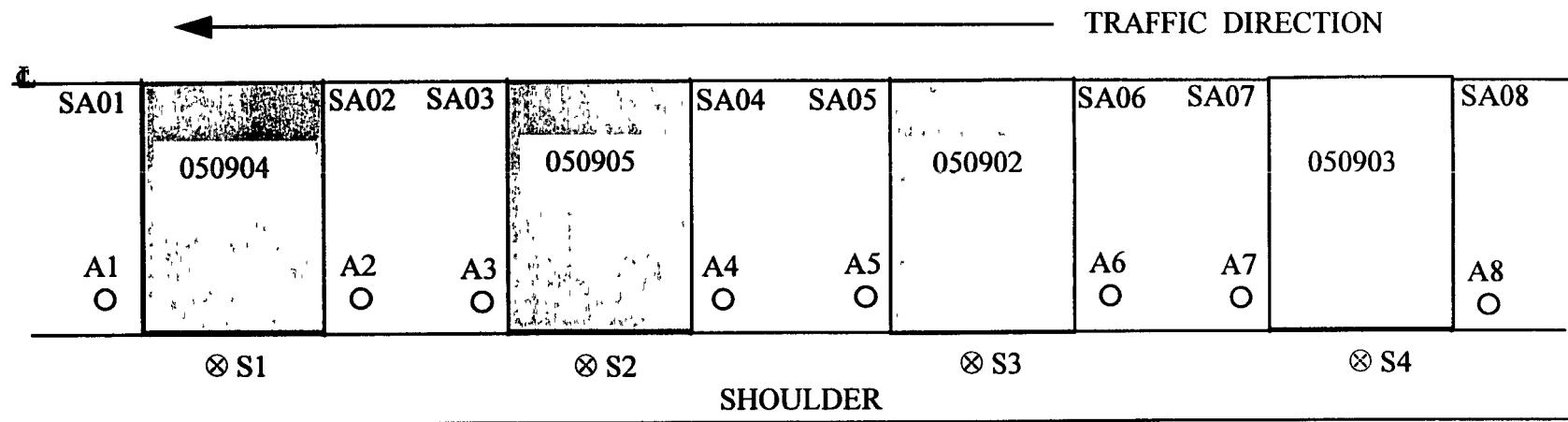
TABLE B-1. SCOPE OF PRECONSTRUCTION MATERIAL SAMPLING

Material And Sample Description	Nº. Of Samples	Sample Location	Sample Number
Portland Cement Concrete Coring - 6" Min. O.D. Cores	8	A1-A8	CP51-CP58
Bound Soil Cement	8	A1-A8	BG01-BG08
Subgrade Bulk Sampling	8	A1-A8	BS01-BS08
Moisture Content Samples	8	A1-A8	MS01-MS08
Shoulder Probes	4	S1-S4	None

TABLE B-2. PRECONSTRUCTION MATERIALS TESTING

Test Type	LTPP Designation	LTPP Protocol	Min. № of Tests	Sample Designation
Surface Bound Layers: Core Examination/Thickness	PC06	P06	8	A1-A8
Base: Classification (Visual)		Note 1	3	A2,A4,A6
Subgrade: Sieve Analysis Atterberg Limits Classification Natural Moisture Content	SS01 SS03 SS04 SS09	P51 P43 P52 P49	3 3 3 3	A1,A3,A5 A1,A3,A5 A1,A3,A5 A1,A3,A5

Note 1: Visually classify materials in accordance with Appendix C of the SHRP-LTPP Guide for Field Materials Sampling, Testing and Handling.



- A-type core locations - 152 mm (6 in) OD core of PCC surface;
auger to 1.2 m (4 ft) below top of subgrade.
- \otimes Shoulder auger probe to 6 m (18 ft) below surface.

**FIGURE B-1. PRECONSTRUCTION SAMPLING LAYOUT
ARKANSAS SPS-9A (050900)**

SECTION C

MATERIAL SAMPLING AND TESTING

DURING CONSTRUCTION

SECTION C

MATERIAL SAMPLING AND TESTING DURING CONSTRUCTION

This portion of the sampling and testing plan deals with field material sampling and laboratory testing during overlay construction. Most of the "during-construction" sampling involves collection of bulk samples from the plant during mix production. Other sampling and testing activities include elevation measurements for documentation of layer thickness, in situ density measurements and coring just subsequent to construction to evaluate as-placed properties. It is important to note that only the HMAC surface materials are to be sampled and tested. Samples will be used to evaluate the properties of the paving mixtures produced and will be compared to properties measured from core samples after material placement.

The goal of this phase of the sampling effort is to investigate differences in material properties from mix design, production and placement. As such, the scope of the sampling activities requires collection of bulk samples at various times in the process, for preparation as test specimens. Samples of the constituent materials and the resulting HMAC mixtures are to be collected. These samples are to be compacted in the SHRP Gyratory Compactor (SGC) for volumetric and performance testing. It is anticipated that performance testing will be conducted at SUPERPAVE™ Regional Test Centers, once they are "on-line". At this time, there is no mechanism in place for conducting the performance testing. As such, samples should be stored in a safe environment awaiting testing. If the SHA does not have suitable storage available, then the samples may be transported to the Materials Reference Library (MRL) for storage.

A summary of the bulk sampling activities by test section is provided in Table C-1. For discussion purposes, bulk sampling activities are divided into five general areas. These are:

1. Laboratory Testing - For the SUPERPAVE™ mix to be used on Section 050902 (once the final mix design is complete) a bulk sample should be blended in the laboratory to final mix design proportions and compacted in the SHRP Gyratory Compactor (SGC) to 7% air voids into 34, 150 mm diameter by 115 mm height cylindrical specimens. These specimens will be used for volumetric and performance testing, as shown in Table C-2.
2. Quality Control Tests - For each of the four surface mixtures, a 60 kg sample of the mix should be obtained from the haul vehicle on site. These samples will be reheated and compacted in the SGC to N_{max} gyrations to form 6 test specimens of each mix. Volumetric testing on these samples is shown on Table C-3 for Test Sections 03, 04 and 05, and on Table C-2 for Test Section 02.
3. Field Performance Tests - For the SUPERPAVE™ mix placed at Section 050902, 360 kg of mix should be sampled from the haul vehicles. These samples will be compacted in the SGC to 7% air voids into 34 test specimens for volumetric and performance testing, as shown on Table C-2.

4. Mix Design Verification - For each of the four test sections, samples of the constituent materials should be sampled at the plant and shipped to the laboratory to be mixed and tested. One 10-liter sample of the asphalt cement and ten 25 kg samples of the combined aggregate will be required for each surface mix. Testing to be performed on these samples is shown on Table C-4.
5. MRL Sampling - Sampling and information related to the handling of bulk samples for the LTPP Materials Reference Library (MRL) is itemized on Table C-6.

In addition to the bulk samples, cores of the HMAC materials are needed just after placement for volumetric and/or performance testing, to determine as-placed properties. Table C-7 provides an indication of the number of cores and time intervals for each of the test sections. Figure C-1 provides an indication of the general coring area for each section at an SPS-9A project. Each coring area is further subdivided into six coring "intervals", as depicted in Figure C-2. Each interval corresponds to a time period, with Interval A corresponding to the immediate postconstruction cores. Intervals B-F correspond to time periods of 6 months, 12 months, 18 months, 24 months and 48 months, respectively. The sampling for these intervals (B-F) will be discussed in Section D of this document.

The coring layout within each interval for Sections 03, 04 and 05 is also shown on Figure C-2. The coring layout within each interval for Section 02 (the SUPERPAVE™ section) is shown in Figure C-3. The thirty-four cores scheduled in Interval A will be used for volumetric and performance testing.

In summary, 8 cores will be obtained from each of Section 03, 04 and 05 during Interval A, immediately following construction. Testing to be performed on these cores is shown in Table C-8. Thirty-four cores shall be obtained from Test Section 02 during Interval A, immediately following construction. Testing to be performed on these cores is shown in Table C-9.

The final "during-construction" field testing activities include elevation and Dipstick® cross-profile measurements before and after overlay placement, and in situ density measurement. Elevation measurements should be performed at 15 m intervals, across the pavement surface at intervals of 0, 0.9, 1.8, 2.7 and 3.6 m from the outside lane edge. Care should be taken to measure the elevation at the same location before and after overlay placement, to ensure accurate calculation of the overlay thickness. Dipstick® cross-profile measurements will be obtained prior to construction. A second set of measurements will be taken just prior to the placement of the surfacing layers (surface after rubblization). A third and final set of measurements will be taken after completion of the surfacing placement. Collection of elevation and Dipstick® cross-profile data will be conducted by the Regional Coordination Office representative on site and as such are not itemized in the following tables or figures. In situ density measurements should also be performed at Stations 1+00, 2+50 and 4+00 in each test section. There should be a reading with the density gauge pointing north, south, east and west, for a total of four readings per station (as mentioned previously). Figure C-4 demonstrates density measurements.

TABLE C-1. SUMMARY OF BULK SAMPLING BY TEST SECTION

Test Section	Material Type	Testing	Bulk Sampling	Testing Lab	Ref. Table
050904	State Option (PG76-22)	Quality Control (Volumetric)	60 kg Mix	SHA	C-3
		Aggregate & Binder Tests	10 liter Asphalt 250 kg Aggregate	SHA	C-4
		Mix Design Verification (Volumetric)	Use Materials Obtained per Table C-4	SHA	C-5
		Materials Ref. Library	20 liter Asphalt 250 kg Aggregate	MRL	C-6
050905	State Option (PG70-22)	Quality Control (Volumetric)	60 kg Mix	SHA	C-3
		Aggregate & Binder Tests	10 liter Asphalt 250 kg Aggregate	SHA	C-4
		Mix Design Verification (Volumetric)	Use Materials Obtained per Table C-4	SHA	C-5
		Materials Ref. Library	20 liter Asphalt 250 kg Aggregate	MRL	C-6
050902	SUPERPAVE™ Mix (PG64-22)	Lab. Mix Design (Volumetric & Performance)	300 kg Mix	SHA	C-2
		Quality Control (Volumetric)	60 kg Mix	SHA	C-2
		Performance Testing (Volumetric & Performance)	360 kg Mix	SHA, LTPP Contract, SUPERPAVE™ Reg Test Center	C-2
		Aggregate & Binder Tests	10 liter Asphalt 250 kg Aggregate	SHA	C-4
		Materials Ref. Library	20 liter Asphalt 250 kg Aggregate	MRL	C-6
050903	SUPERPAVE™ Mix w/Alt. Binder (PG58-22)	Quality Control (Volumetric)	60 kg Mix	SHA	C-3
		Aggregate & Binder Tests	10 liter Asphalt 250 kg Aggregate	SHA	C-4
		Mix Design Verification (Volumetric)	Use Materials Obtained per Table C-4	SHA	C-5
		Materials Ref. Library	20 liter Asphalt 250 kg Aggregate	MRL	C-6

**TABLE C-2. TESTS ON COMPACTED BULK SAMPLES OF HMA
FROM TEST SECTION 02 ON ALL PROJECTS**

Test Name	Test Desig.	Protocol	No. of Tests	Material Source/ Material Sample
HMA Specimen Compaction by Participating Highway Agency				
Gyratory Compaction @ N _{Max} (Lab samples)		AASHTO M002	6	NA01A02 - NA06A02*
Gyratory Compaction @ 3% AV (Lab samples)		AASHTO M002	2	NA07A02, NA08A02*
Gyratory Compaction @ 7% AV (Lab samples)		AASHTO M002	32	NA09A02 - NA40A02*
Gyratory Compaction @ 3% AV (Field samples)		AASHTO M002	2	BA01A02, BA34A02*
Gyratory Compaction @ N _{Max} (Field samples)		AASHTO M002	6	BA02A02 - BA04A02* BA31A02 - BA33A02*
Gyratory Compaction @ 7% AV (Field samples)		AASHTO M002	26	BA05A02 - BA30A02*
Volumetric Tests by Participating Highway Agency				
Bulk Specific Gravity	AC02	LTPP P02	18	LA01A02 - LA07A02, LA15A02, LA38A02 DA02A02 - DA04A02, DA06A02, DA16A02, DA22A02, DA31A02 - DA33A02
Asphalt Content (Extraction) (Uncompacted material)	AC04	LTPP P04	6	BA01A02, BA06A02, BA11A02 BA16A02, BA22A02, BA34A02
Aggregate Gradation (Extracted Aggregate)	AG04	LTPP P14	2	BA06A02, BA22A02
Maximum Specific Gravity	AC03	LTPP P03	3	NA15A02, BA06A02, BA22A02
Moisture Susceptibility	AC05	LTPP P05	6	LA09A02 - LA14A02
Volumetric Calculations by Participating Highway Agency				
AV, VMA, VFA		AASHTO PP19	6*	LA01A02 - LA06A02
LTPP Performance Tests by LTPP Contract Laboratory				
Indirect Tensile Strength	AC07	LTPP P07	2*	LA15A02, DA09A02
Resilient Modulus	AC07	LTPP P07	2**	LA16A02 - LA18A02 DA05A02, DA17A02, DA29A02
Creep Compliance	AC06	LTPP P06	8*	LA19A02 - LA22A02 DA15A02, DA16A02, DA18A02, DA30A02
SUPERPAVE™ Shear Tester Performance Tests by SUPERPAVE™ Regional Test Center				
Frequency Sweep at Constant Height & Simple Shear at Constant Height	SST-1	AASHTO M003, P005	6 2*	LA23A02 - LA26A02 DA06A02, DA10A02, DA24A02, DA28A02
Volumetric Test & Uniaxial Strain	SST-2	AASHTO M003, P005	6 2*	LA27A02 - LA30A02 DA07A02, DA11A02, DA23A02, DA27A02
Repeated Shear at Constant Stress Ratio	SST-3	AASHTO M003, P005	4	LA07A02, LA08A02 DA01A02, DA34A02
SUPERPAVE™ Indirect Tensile Tests by SUPERPAVE™ Regional Test Center				
Indirect Tensile Creep Compliance & Indirect Tensile Strength	SP-IT	AASHTO M005	18 2*	LA31A02 - LA40A02 DA08A02, DA12A02 - DA14A02, DA19A02 - DA22A02, DA25A02, DA26A02

**TABLE C-2. TESTS ON COMPACTED BULK SAMPLES OF HMA
FROM TEST SECTION 02 ON ALL PROJECTS
(Continued)**

Notes:

- a. For purposes of this table, a single specimen is compacted from each bulk sample. Test specimen DA01A02 is produced from BA01A02 and LA01A02 is produced from NA01A02, etc. Up to three specimens can be produced from the sample, depending on its size.
- b. Three specimens are needed for one test.
- c. Test specimen of 100 mm diameter will be cored from compacted 150 mm specimens produced by the gyratory compactor.
- d. The corrected bulk density at N_{design} shall be estimated from the gyratory compaction curves for calculation of the volumetric properties.
- e. Spare specimens (one laboratory and one field compacted sample).

**TABLE C-3. QUALITY CONTROL RELATED TESTS ON COMPACTED SPECIMENS FROM TEST SECTIONS 03, 04, AND 05
(To Be Performed by the Participating Highway Agency)**

Test Name	Test Desig.	Protocol	Nº. of Tests	Material Source/ Material Sample
HMA Specimen Compaction				
Gyratory Compaction @ N_{Max}		AASHTO M002	6	BA01AXX - BA06AXX*
Volumetric Tests				
Bulk Specific Gravity	AC02	LTPP P02	6	DA01AXX - DA06AXX
Asphalt Content (Extraction)	AC04	LTPP P04	2	BA02AXX, BA04AXX
Aggregate Gradation (Extracted Aggregate)	AG04	LTPP P14	2	BA02AXX, BA04AXX
Maximum Specific Gravity	AC03	LTPP P03	2	BA02AXX, BA04AXX
Volumetric Calculations				
Volume Percent of AV		AASHTO PP19	6	BA01AXX - BA06AXX
Percent Voids in Mineral Aggregate		AASHTO PP19	6	BA01AXX - BA06AXX
Voids Filled with Asphalt		AASHTO PP19	6	BA01AXX - BA06AXX

Notes:

- a. A single test specimen is produced from each bulk HMA mix sample. Test specimen DA01AXX is produced from sample BA01AXX, etc. XX denotes the Section Number (03, 04 and 05).
- b. Estimate the corrected bulk specific gravity from gyratory compaction curves at N_{Design} and use this value for the volumetric computations.

**TABLE C-4. SUPERPAVE™ AGGREGATE AND BINDER TESTS
ON HMA SURFACE LAYER MATERIALS FROM ALL TEST SECTIONS
(To Be Performed by Participating Highway Agency)**

Test Name	Test Desig.	Protocol	Nº. of Tests	Material Source	
Aggregate Tests*					
Aggregate Gradation	AG04	LTPP P14	1	BU10AXX	
Specific Gravity of Coarse Aggregate	AG01	LTPP P11	1		
Specific Gravity of Fine Aggregate	AG02	LTPP P12	1		
Specific Gravity of -200 Material		AASHTO T100	1		
Coarse Aggregate Angularity		Penn DOT TM 621	1		
Fine Aggregate Angularity		ASTM C1252	1		
Toughness		AASHTO T96	1		
Soundness		AASHTO T104	1		
Deleterious Materials		AASHTO 112	1		
Clay Content		AASHTO T176	1	BC01AXX	
Thin, Elongated Particles		ASTM D4791	1		
Asphalt Cement					
Penetration @ 5°C		AASHTO T49	1*		
Penetration @ 25°C & 46°C	AE02	LTPP P22	1*		
Viscosity @ 60°C & 135°C	AE05	LTPP P25	2		
Specific Gravity @ 16°C	AE03	LTPP P23	2		
Dynamic Shear @ 3 Temperatures		AASHTO TP5	2		
Brookfield Viscosity @ 135°C & 165°C		ASTM D4402	1		
Rolling Thin Film Oven (RTFOT)		AASHTO T240	b		
Dynamic Shear on RTFOT Residue @ 3 Temperatures ^d		AASHTO TP5	3		
Pressure Aging (PAV) of RTFOT Residue		AASHTO PP1	b		
Creep Stiffness of RTFOT-PAV Residue @ 2 Temperatures - 24 h Conditioning ^{c,d}		AASHTO TP1	2		
Creep Stiffness of RTFOT-PAV Residue @ 2 Temperatures ^d		AASHTO TP1	2		
Dynamic Shear on RTFOT-PAV Residue @ 3 Temperatures ^d		AASHTO TP5	2		
Direct Tension on RTFOT-PAV Residue @ 2 Temperatures ^d		AASHTO TP3	2		

Notes:

- Only one set of aggregate tests required for each unique aggregate combination used on the project.
- Sufficient material should be conditioned for the required tests.
- Conditioning time extended to 24 h ± 10 min at 10°C above the minimum performance temperature.
- See section 4.5.1.2 for temperature selection guidelines.
- Three penetration values obtained from each test.

**TABLE C-5. SUPERPAVE™ MIXTURE DESIGN TESTS ON
HMA SURFACE LAYER MATERIALS FROM SECTIONS 03, 04 AND 05
(To Be Performed by Participating Highway Agency)**

Test Name	Test Desig.	Protocol	Nº. of Tests	Material Source
Mixed and Compacted HMA				
Gyratory Compaction @ Design Asphalt Content @ N_{Max}		AASHTO M002	3	BC01AXX BU01AXX-BU03AXX
Gyratory Compaction @ 7% AV		AASHTO M002	6	BC01AXX BU04AXX-BU09AXX
Bulk Specific Gravity	AC02	LTPP P02	3	LA01AXX-LA03AXX
Maximum Specific Gravity	AC03	LTPP P03	1	NA01AXX
Moisture Susceptibility	AC05	LTPP P05	6	LA04AXX-LA09AXX
Volumetric Calculations				
Volume Percent of AV		AASHTO PP19	3	LA01AXX - LA03AXX
Percent Voids in Mineral Aggregate		AASHTO PP19		
Voids Filled With Asphalt		AASHTO PP19		

Notes:

- (i) NA01AXX is laboratory mixed HMA, combining BC01AXX and BU01AXX. XX denotes the section number (03, 04 or 05).
- (ii) LA??AXX is a laboratory compacted specimen produced from BC??AXX and BU??AXX.
- (iii) Estimate the corrected bulk specific gravity from the gyratory compaction curves at N_{Design} and use this value for the Volumetric Calculations.

TABLE C-6. BULK MATERIAL SAMPLES TO BE SHIPPED TO THE LTPP MATERIAL REFERENCE LIBRARY

Material	Number
Asphalt Cement Collected from the Plant in 20-Liter Pails (Surface Mix Only)	1 for Each Type of Binder
Combined Coarse and Fine Aggregate Obtained from the Plant and Stored in 20-Liter Pails (Surface Mix Only)	10 for Each Aggregate Combination

Notes:

The MRL will provide containers and will pay for shipping costs.

Contact the MRL at (702) 358-7574 prior to construction to make arrangements for sample containers and to receive specific shipping instructions.

Only one sample of each unique asphalt binder used in the SPS-9A mixes is needed. If the same binder is used in more than one mix, then only one sample of that binder should be obtained.

A copy of LTPP Field Operations Information Form 1 should be completed and attached to all MRL shipments. Another copy of the form should be mailed separately to the MRL.

TABLE C-7. NUMBER OF CORES AND CORING TIME INTERVALS FROM SPS-9A STUDY TEST SECTIONS

Project Type	Test Section №.	Time After Paving, Months - Interval Identifier -					
		0 -A-	6 -B-	12 -C-	18 -D-	24 -E-	48 -F-
Main Study	Section 050902 SUPERPAVE™ Binder (PG64-22)	34 (S*)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)
	Section 050903 Alternate SUPERPAVE™ Binder (PG58-22)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)
	Section 050904 Supplemental Binder (PG76-22)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)
	Section 050905 State Option (PG70-22)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)

Note: The numbers in the cells represent the number of 152 mm diameter cores needed to perform the required tests.

V = Volumetric and binder stiffness tests on cores

S* = Performance testing at t=0 months will be performed on 3 sets of specimens;

- compacted specimen from design mixtures produced in the laboratory
- compacted specimen from bulk samples obtained during construction
- cores obtained immediately following construction.

**TABLE C-8. LABORATORY TESTS TO BE PERFORMED ON CORES FROM
MAIN STUDY TEST SECTION 03, AND SUPPLEMENTAL SECTIONS 59 AND 60 AT
TIME INTERVAL A AND ON SECTION 02 AT ALL INTERVALS AFTER A
(To Be Performed by the Participating Highway Agency)**

Test Name	Test Desig.	Protocol	No. Tests	Material Source ^b
Core Examination/Thickness	AC01	LTPP P01	8	All Cores
Volumetric Analysis				
Bulk Specific Gravity	AC02	LTPP P02	8	All Cores
Asphalt Content (Extraction)	AC04	LTPP P04	8	All Cores
Aggregate Gradation (Extracted Aggregate)	AG04	LTPP P14	2	CA01/XX, CA08/XX
Volumetric Calculations^a				
Volume Percent of AV		AASHTO PP19	2	CA01/XX, CA08/XX
Percent Voids in Mineral Aggregate		AASHTO PP19	2	CA01/XX, CA08/XX
Voids Filled with Asphalt		AASHTO PP19	2	CA01/XX, CA08/XX
Recovered Asphalt Cement				
Abson Recovery	AE01	LTPP P21	8	CA01/XX - CA08/XX
Penetration @ 5°C		AASHTO T49	1 ^d	
Penetration @ 25°C & 46°C	AE02	LTPP P22	1 ^d	
Viscosity @ 60°C & 135°C	AE05	LTPP P25	2	
Specific Gravity @ 16°C	AE03	LTPP P23	2	
Dynamic Shear @ 3 Temperatures ^c		AASHTO TP5	2	
Creep Stiffness @ 2 Temperatures ^c		AASHTO TP1	2	
Direct Tension @ 2 Temperatures ^c		AASHTO TP3	2	

Notes:

- a. Estimate the maximum theoretical specific gravity using the extracted AC content and aggregate effective specific gravity determined during construction.
- b. The cores shown in this table are for each test section to be tested at each designated testing time interval t , where t represents the sampling time interval after construction as follows:

t = A at time 0 immediately following construction
 t = B at 6 months after construction
 t = C at 12 months after construction
 t = D at 18 months after construction
 t = E at 24 months after construction
 t = F at 48 months after construction

For example, core CA01E03 is obtained and tested 24 months after construction from Section 03.

- c. The test temperatures should be the same as those used for the tests on the RTFOT-PAV conditioned samples performed during the initial binder grading.
- d. Three penetration readings required from a single container.

**TABLE C-9. TESTS ON CORE SAMPLES FROM MAIN STUDY
TEST SECTION 02 AT INTERVAL A**

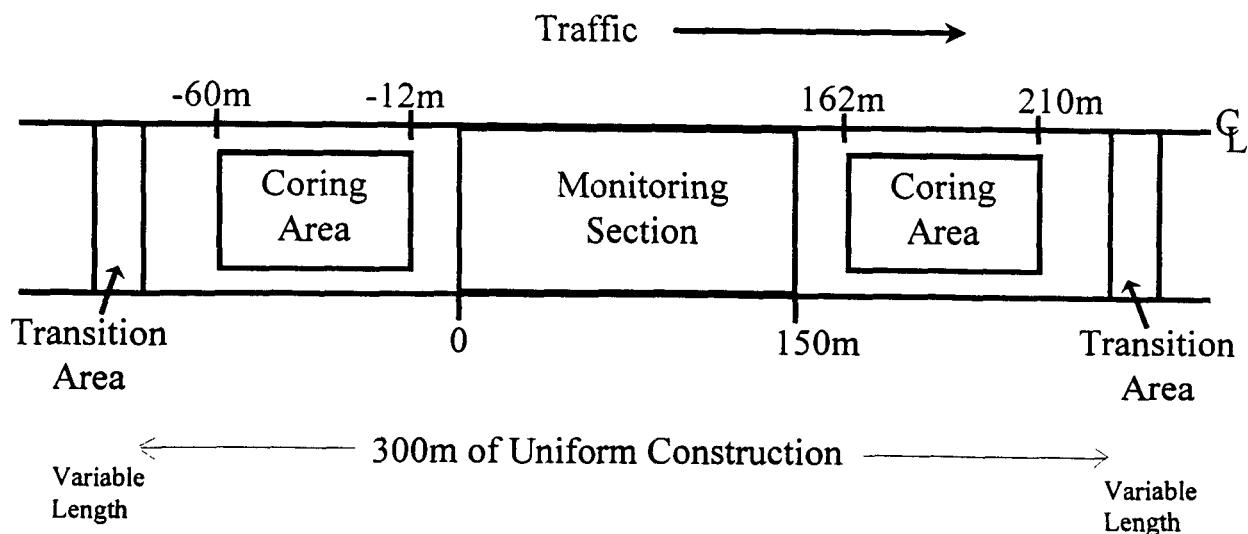
Test Name	Test Desig.	Protocol	No. of Tests	Material Source/ Material Sample ^b
Volumetric Tests by Participating Highway Agency				
Core Examination and Thickness	AC01	LTPP P01	8	CA02tXX, CA06tXX, CA11tXX, CA15tXX, CA19tXX, CA24tXX, CA28tXX, CA33tXX
Bulk Specific Gravity	AC02	LTPP P02	8	CA02tXX, CA06tXX, CA11tXX, CA15tXX, CA19tXX, CA24tXX, CA28tXX, CA33tXX
Asphalt Content (Extraction)*	AC04	LTPP P04	8	CA02tXX, CA06tXX, CA11tXX, CA15tXX, CA19tXX, CA24tXX, CA28tXX, CA33tXX
Aggregate Gradation (Extracted Aggregate)*	AG04	LTPP P14	2	CA11tXX, CA24tXX
Maximum Specific Gravity	AC03	LTPP P03	2	CA11tXX, CA24tXX
Volumetric Calculations by Participating Highway Agency				
Volume Percent of AV		AASHTO PP19	2	CA11tXX, CA24tXX
Percent Voids in Mineral Aggregate				
Voids Filled with Asphalt				
Recovered Asphalt Cement Tests by Participating Highway Agency				
Abson Recovery	AE01	LTPP P21	8	CA02tXX, CA06tXX, CA11tXX, CA15tXX, CA19tXX, CA24tXX, CA28tXX, CA33tXX
Penetration @ 5°C		AASHTO T49	1 ^c	
Penetration @ 25°C & 46°C	AE02	LTPP P22	1 ^c	
Viscosity @ 60°C & 135°C	AE05	LTPP P25	2	
Specific Gravity @ 16°C	AE03	LTPP P23	2	
Dynamic Shear @ 3 Temperatures		AASHTO TP5	2	
Creep Stiffness @ 2 Temperatures		AASHTO TP1	2	
Direct Tension @ 2 Temperatures		AASHTO TP3	2	
Replacement Cores to Replace Damaged Cores				CA05tXX, CA25tXX
LTPP Performance Tests by LTPP Contract Laboratory				
Creep Compliance	AC06	LTPP P06	4 ^e	CA03tXX, CA14tXX, CA23tXX, CA32tXX,
Indirect Tensile Strength	AC07	LTPP P07	1 ^e	CA16tXX
Resilient Modulus	AC07	LTPP P07	1 ^{ea}	CA07tXX, CA21tXX, CA31tXX

**TABLE C-9. TESTS ON CORE SAMPLES FROM MAIN STUDY
TEST SECTION 02 AT INTERVAL A
(Continued)**

Test Name	Test Desig.	Protocol	No. of Tests	Material Source/ Material Sample ^b
SUPERPAVE™ Shear Tester Performance Tests by SUPERPAVE™ Regional Test Center				
Frequency Sweep at Constant Height & Simple Shear at Constant Height	SST-1	AASHTO M003, P005	2	CA04tXX, CA30tXX
Volumetric Test & Uniaxial Strain	SST-2	AASHTO M003, P005	2	CA12tXX, CA22tXX
Repeated Shear at Constant Stress Ratio	SST-3	AASHTO M003, P005	2	CA09tXX, CA26tXX
SUPERPAVE™ Indirect Tensile Tests by SUPERPAVE™ Regional Test Center				
Indirect Tensile Creep Compliance & Indirect Tensile Strength	SP-IT	AASHTO M005	10	CA01tXX, CA08tXX, CA10tXX, CA13tXX, CA17tXX, CA18tXX, CA20tXX, CA27tXX, CA29tXX, CA34tXX

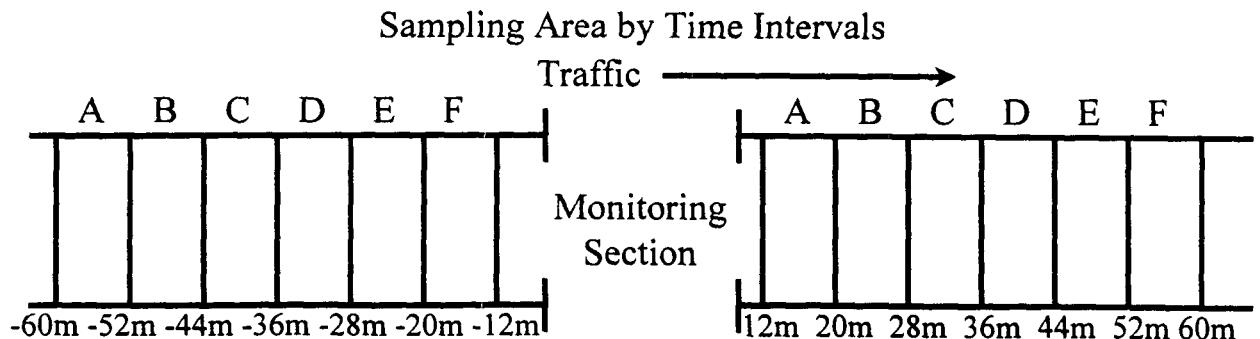
Notes:

- a. These cores are from each test section at time intervals $t = A$ (0 months), $t = C$ (12 months), $t = E$ (24 months) and $t = F$ (48 months) after construction.
- b. Three specimens are needed for one test.
- c. Specimens of 100 mm diameter will be cored from 150 mm field cores.
- d. Three penetration readings must be taken from each test can.

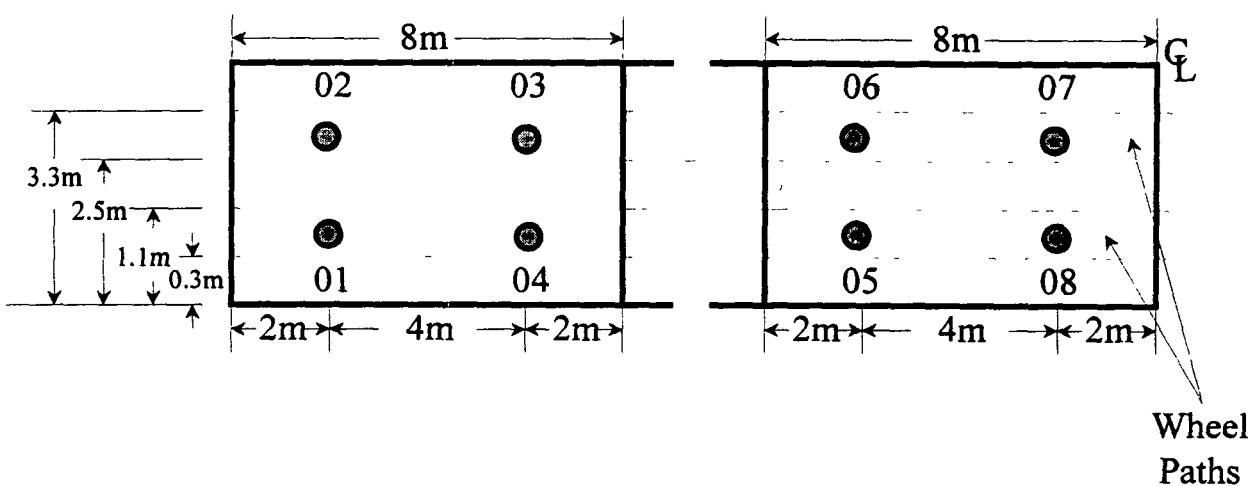


**FIGURE C-1. CORING AREAS FOR SPS-9A TEST SECTIONS
ARKANSAS SPS-9A (050900)**

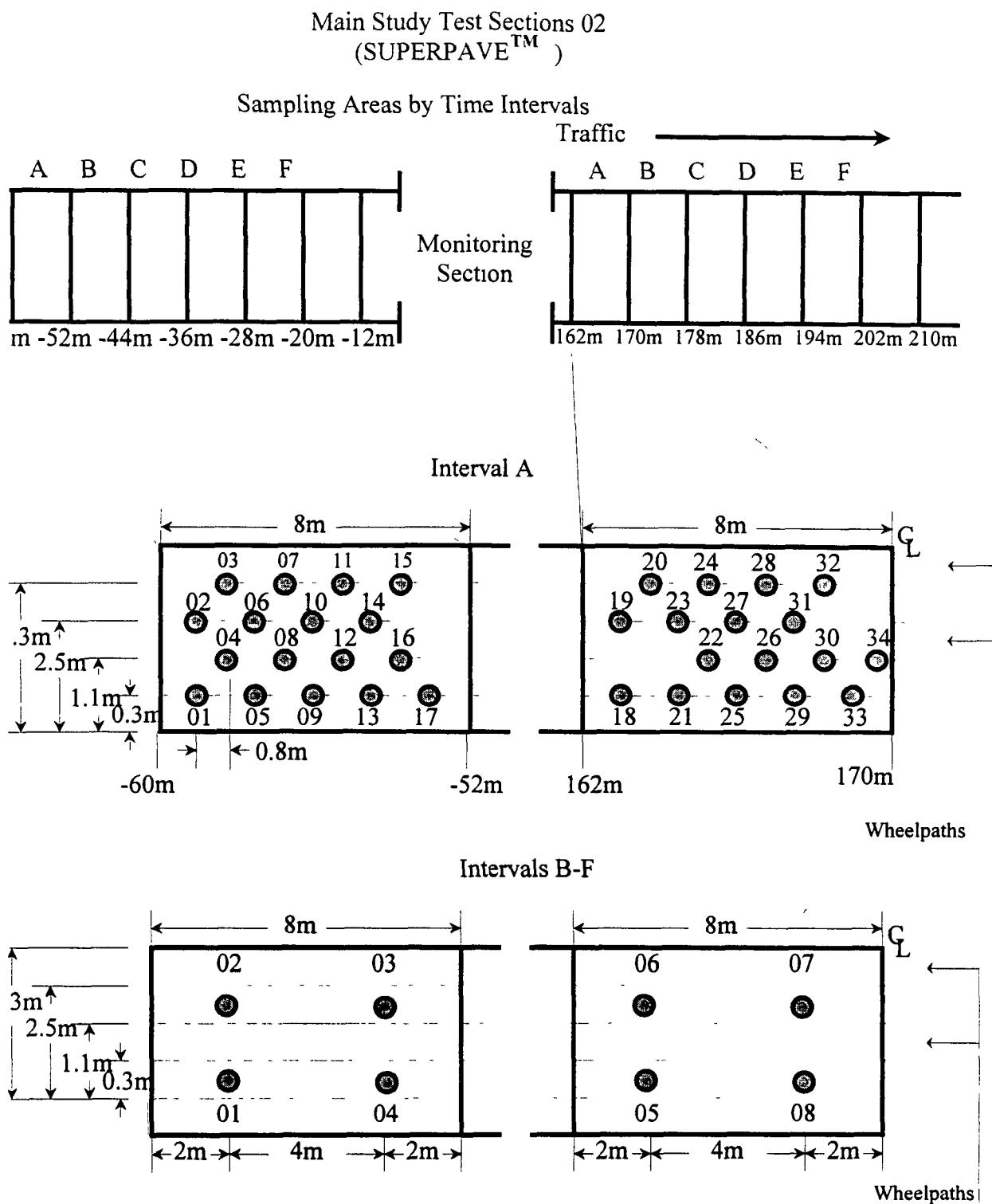
Main Study Test Sections 03, 04, 05



All Intervals

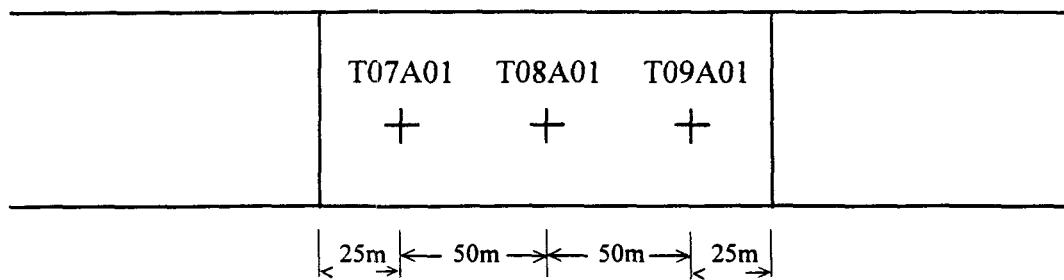


**FIGURE C-2. CORING PLAN FOR MAIN STUDY TEST SECTIONS 03, 04 AND 05
ARKANSAS SPS-9A (050900)**



**FIGURE C-3. CORING PLAN FOR MAIN STUDY TEST SECTION 02
(SUPERPAVE™ MIX)
ARKANSAS SPS-9A (050900)**

Final SUPERPAVETM Layer - Post Construction (t = 0)



**FIGURE C-4. IN SITU DENSITY MEASUREMENTS USING
NUCLEAR DENSITY GAUGE FOR A TYPICAL SECTION
ARKANSAS SPS-9A (050900)**

SECTION D
MATERIAL SAMPLING AND TESTING
POSTCONSTRUCTION

SECTION D

**MATERIAL SAMPLING AND TESTING
POSTCONSTRUCTION**

Materials sampling after construction consists solely of coring at time intervals of 6 months, 12 months, 18 months, 24 months and 48 months. These time periods correspond to intervals B-F, as discussed in Section C of this document and presented in Figures C-2 and C-3. These core samples will be tested to determine volumetric and binder stiffness properties, to evaluate their change with time. The testing to be performed on these core samples is shown in Table D-1.

**TABLE D-1. NUMBER OF CORES AND CORING TIME INTERVALS
FROM SPS-9A STUDY TEST SECTIONS**

Project Type	Test Section №	Time After Paving, Months - Interval Identifier -					
		0 -A-	6 -B-	12 -C-	18 -D-	24 -E-	48 -F-
Main Study	Section 050902 SUPERPAVE™ Binder (PG64-22)	34 (S*)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)
	Section 050903 Alternate SUPERPAVE™ Binder (PG58-22)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)
	Section 050904 Supplemental Binder (PG76-22)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)
	Section 050905 State Option (PG70-22)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)	8 (V)

Note: The numbers in the cells represent the number of 152 mm diameter cores needed to perform the required tests.

V = Volumetric and binder stiffness tests on cores

S* = Performance testing at t=0 months will be performed on 3 sets of specimens;

- compacted specimen from design mixtures produced in the laboratory
- compacted specimen from bulk samples obtained during construction
- cores obtained immediately following construction.

SECTION E

SAMPLING LOCATION AND NUMBERING DESIGNATIONS

SECTION E

SAMPLING LOCATION AND NUMBERING DESIGNATIONS

Sampling Location Designations

Sampling locations are designated on the LTPP forms and material sampling plans with the following six digit code format:

L ## t XX

where

L = Location type:

- B - Bulk sample location
- A - 150 mm diameter core and/or auger locations
- S - Shoulder auger probe 6 m below the pavement surface
- C - 150 mm diameter core locations
- T - Nuclear density/moisture gauge
- F - Field bulk HMA sample
- H - Samples obtained from the hot mix plant

= Location number. Up to a two digit location number is assigned sequentially to each location type on each test section. For the SUPERPAVE™ mixtures, when obtaining bulk samples of plant mix materials, use sample location numbers of 01-09 for the topmost layer (wearing course) and 11-19 for the binder course. (This explicitly limits sampling and testing to a maximum of two SUPERPAVE™ materials, layers, in a test section.)

t = Sampling time interval. This time interval is used for samples taken at specified time intervals referenced to the construction date. The single letter designating the time from paving is as follows:

- A - Prior, during or immediately after construction
- B - 6 months
- C - 12 months
- D - 18 months
- E - 24 months
- F - 48 months

XX = Section. Use the two digit test section number, e.g., 01, 02, 03. This makes the sample location unique to that test section.

Examples of valid sample location numbers include:

- B01A01** Bulk sample 01 from test section 01.
- A02A03** Auger location 02 from test section 03.
- C04B03** Core location 4 at sampling time interval B (six months after paving) from test section 03.

The samples from each sample location are assigned a sample number as described in the next section.

Sample Code Number

Each sample (cores, bulk, moisture, compacted) shall be assigned a seven digit designation that must be recorded on the appropriate data forms. The sample number will consist of the following format:

Digit	S	M	#	t	XX
	1	2	34	5	67

where

S = Sample type:

- C - Core sample
- D - Compacted specimen from plant-mixed material
- B - Bulk sample
- M - Moisture sample
- L - Compacted specimen from laboratory-mixed material
- N - Uncompacted laboratory-mixed material sample

M = Material type:

- A - Asphalt concrete
- C - Asphalt cement
- P - Portland cement concrete
- T - Treated, bound or stabilized base/subbase
- U - Combined aggregate used in asphalt concrete mixes
- G - Untreated, unbound granular base/subbase
- S - Subgrade soil or fill material

= Sample number. Up to a two-digit sample number assigned sequentially to each sample with the same sample type and material type designation. for specimens made in the SUPERPAVE™ Gyratory Compactor from bulk samples (DA**** and LA**** codes), use sample numbers from 01-49 for the topmost SUPERPAVE™ layer and 50-99 for a binder course material/layer (if it is a SUPERPAVE™ mixture). similarly for cores (CA**** codes), the top layer is marked with a sample number of 01-49 while the bottom of the core (binder layer) is incremented by 49 to be in the range of 50-99.

t = Sampling time interval. This time interval is used for samples taken at specified time intervals referenced to the construction date. The single letter designating the time from paving is as follows:

- A - Prior, during or immediately after construction
- B - 6 months
- C - 12 months
- D - 18 months
- E - 24 months
- F - 48 months

XX = Section number. Use the two-digit test section number, e.g., 01, 02, 03. This makes the sample location unique to that test section.

The following are examples of valid sample code numbers:

- CA24A02** Asphalt concrete cores from test section 02 obtained at time interval A (immediately following paving).
- CA01D01** An example of HMA core sample numbering taken from test section 01 during interval D (18 months after construction).
- CT02A03** Treated base core 2 from test section 03.
- BG01A01** Bulk sample 1 of granular base from test section 01. Assign numbers consecutively as samples are obtained from each test section., e.g., BG01A01, BG02A02, etc.
- BA01A02** Bulk sample 1 of uncompacted HMA from test section 02. assign numbers consecutively as samples are obtained from each test section, e.g., BA01A02, BA02A02, etc.

- DA01A01** Compacted specimen number 01 of plant-mixed HMA from section 01 interval A (during construction).
- NA01A02** Uncompacted sample of laboratory-mixed HMA made from constituent materials obtained from the plant used in section 02.'
- LA01A01** Compacted specimen 1 of laboratory-mixed HMA made from constituent materials obtained from the plant destined for mixture placed in section 01.
- BS01A02** Bulk subgrade sample of material from test section 02 obtained prior to construction. assign sample numbers consecutively for multiple samples from the same test section.
- MS01A02** Subgrade moisture content sample 1 obtained from bulk sampling location on test section 02.

SECTION F

ARKANSAS SPS-9A SAMPLING AND TESTING SUMMARY

SECTION F
ARKANSAS SPS-9A SAMPLING AND TESTING SUMMARY

NOTE Project includes 2 standard and 2 supplementals sections. All cores are 6" in diameter unless otherwise noted Direction of traffic marked on each core

I. Preconstruction

* All samples denoted as Field Set №. 1

A. Coring

1. Before and after each test section
2. Locations A1 to A8 (6" diameter)
3. Core samples CP01 to CP08
4. Package and ship to state lab
5. Testing includes examination/thickness, as per P66

B. Augering

1. Unbound base/subbase
 - a. Visual field classification only (Protocol P47)
 - b. No samples retrieved
 - c. Record thickness and material type
2. Subgrade
 - a. Sample and store in airtight containers for lab testing
 - I. Sieve Analysis - Protocol P51
 - II. Atterberg Limits - Protocol P43
 - III. Classification - Protocol P52
 - IV. Natural Moisture Content - Protocol P49
 - b. Sample №s. BS01 to BS08

II. During Construction

* All samples recorded as Field Set №. 2

A. Bulk Sampling

1. For Materials Reference Library (MRL)
 - a. One 5-gallon pail of asphalt cement each section
 - b. Ten 5-gallon pails of aggregate each section

- c. MRL to provide sample containers (44 5-gallon pails)
- d. Ship to MRL (Reno, NV - they pay shipping) with appropriate sample documentation

2. For Laboratory Testing

- a. One 5-gallon pail of asphalt cement per section
- b. Ten 5-gallon pails of aggregate mix per section
- c. Thirteen 5-gallon pails of SUPERPAVE™ HMAC mix.
- d. Two 5-gallon pails of each other mix
- e. Asphalt cement and aggregate samples proportioned and mixed in lab, then compacted with SGC for mix verification
- f. SUPERPAVE™ mix reheated and compacted in SGC to form 34 test specimens - 28 for performance testing, 6 for volumetric and binder stiffness testing
- g. Other mix types reheated and compacted in SGC to form 6 test specimens for volumetric and binder stiffness

Section Nº.	Sampled For	HMAC	AC Binder	Bulk Combined Aggregate*
02	MRL	0	1	10
	Lab	13	1	10
	Total	13	2	20
03	MRL	0	1	10
	Lab	2	1	10
	Total	2	2	20
04	MRL	0	1	10
	Lab	2	1	10
	Total	2	2	20
05	MRL	0	1	10
	Lab	2	1	10
	Total	2	2	20

Quantities in 5 gal. pails

* 1 55-gallon drum can be used in lieu of 10 5-gallon pails.

B. Coring ($t = 0$)

1. SUPERPAVE™ section (02)

- a. Thirty-four cores (17 before, 17 after)
- b. Performance testing, then volumetric and binder stiffness

2. Other sections (03, 04, 05)

- a. Eight cores each section (4 before, 4 after)
- b. Cores tested for volumetric and binder stiffness

III. Postconstruction

- * Coring at $t = 6$ mos, 12 mos, 18 mos, 24 mos, 48 mos
- * Field Set N°s. 3, 4, 5, 6 and 7, respectively
- * Eight cores per test section (4 before, 4 after)
- * Cores tested for volumetric and binder stiffness

APPENDIX D

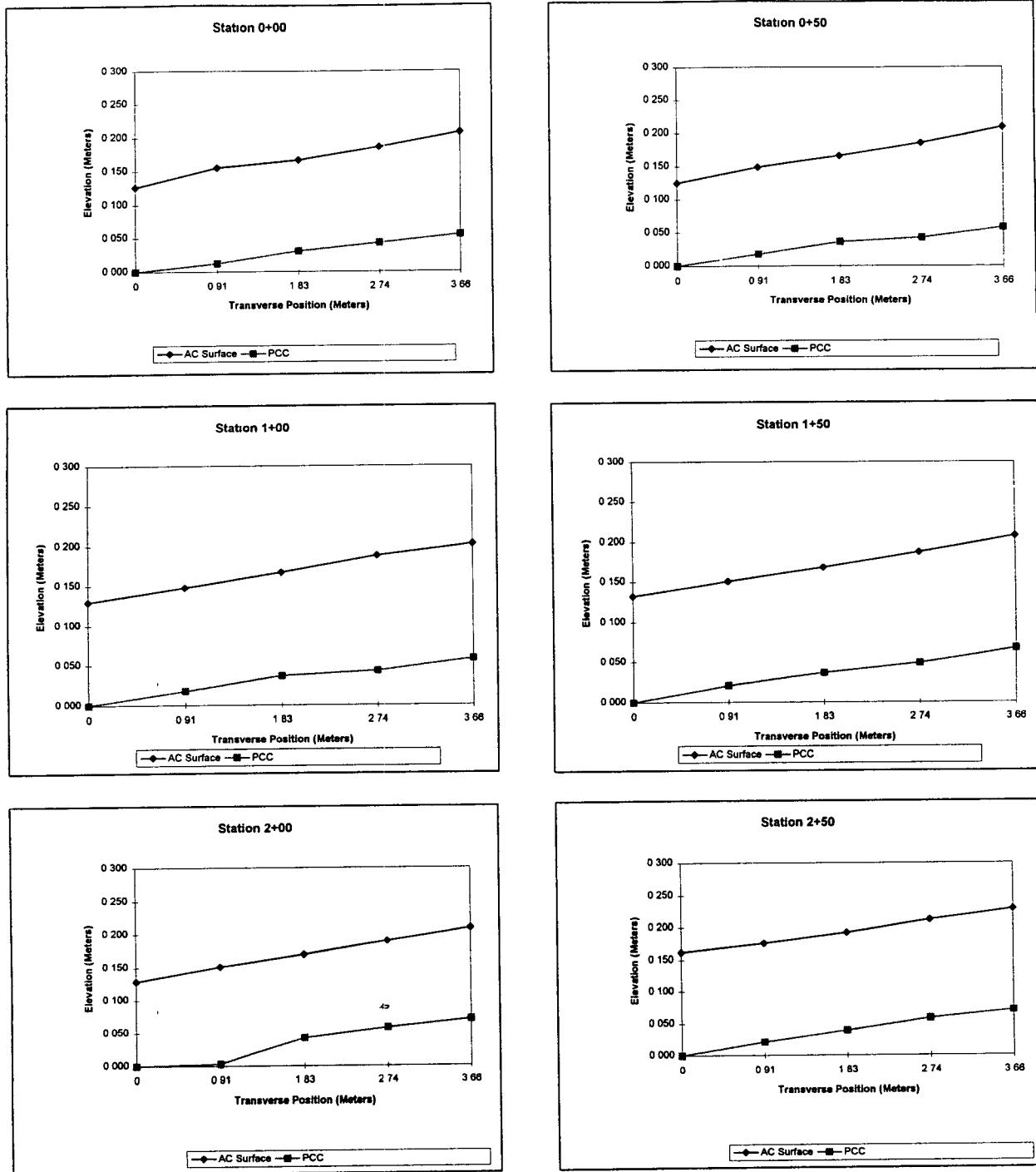
SURFACE PROFILE DATA

Arkansas SPS-9 (050902)

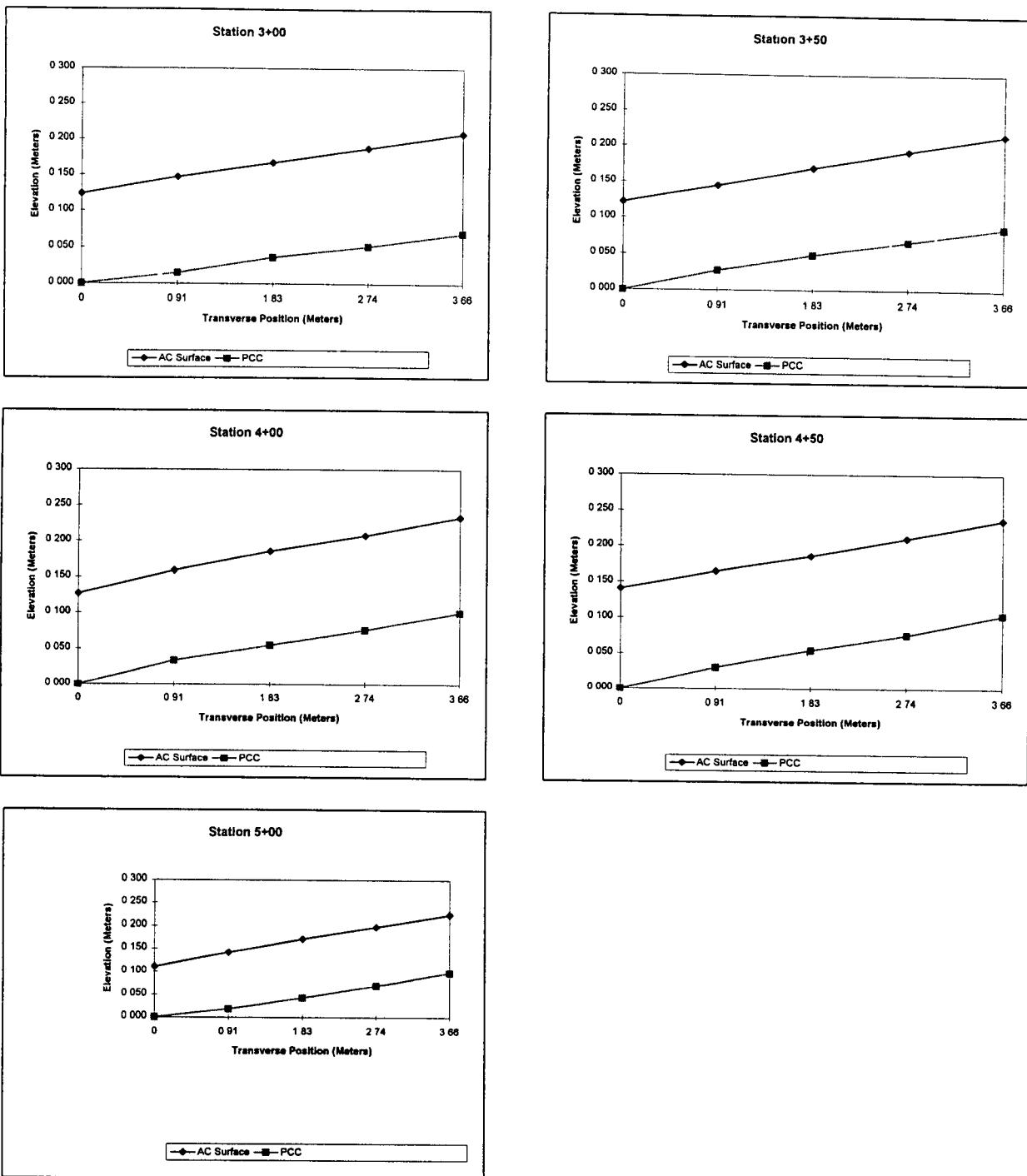
Transverse Offset 2 LAYERS	ELEVATION 0 Meters	AC Surface THICKNESS Meters	ELEVATION 0.91 Meters	AC Surface THICKNESS Meters	ELEVATION 1.83 Meters	AC Surface THICKNESS Meters	ELEVATION 2.74 Meters	AC Surface THICKNESS Meters	ELEVATION 3.66 Meters	AC Surface THICKNESS Meters
0 + 00 AC Surface PCC	2 931 2 804	0 126	2 960 2 816	0 143	2 970 2 835	0 136	2 990 2 847	0 143	3 012 2 859	0 153
0 + 50 AC Surface PCC	2 930 2 804	0 126	2 954 2 822	0 131	2 970 2 841	0 130	2 990 2 847	0 143	3 013 2 862	0 151
1 + 00 AC Surface PCC	2 925 2 795	0 130	2 943 2 813	0 130	2 961 2 832	0 130	2 982 2 838	0 145	2 997 2 853	0 144
1 + 50 AC Surface PCC	2 931 2 798	0 133	2 949 2 819	0 130	2 966 2 835	0 131	2 986 2 847	0 139	3 005 2 865	0 140
2 + 00 AC Surface PCC	2 911 2 783	0 128	2 934 2 786	0 148	2 952 2 825	0 126	2 972 2 841	0 131	2 992 2 853	0 139
2 + 50 AC Surface PCC	2 905 2 743	0 162	2 918 2 765	0 154	2 935 2 783	0 152	2 955 2 801	0 154	2 972 2 813	0 158
3 + 00 AC Surface PCC	2 888 2 765	0 123	2 912 2 780	0 133	2 932 2 801	0 131	2 952 2 816	0 136	2 973 2 835	0 139
3 + 50 AC Surface PCC	2 877 2 755	0 122	2 900 2 783	0 117	2 925 2 804	0 120	2 947 2 822	0 125	2 970 2 841	0 130
4 + 00 AC Surface PCC	2 861 2 734	0 126	2 893 2 768	0 126	2 920 2 789	0 131	2 942 2 810	0 132	2 967 2 835	0 133
4 + 50 AC Surface PCC	2 859 2 719	0 140	2 883 2 749	0 134	2.905 2 774	0.131	2 929 2 795	0 134	2 955 2 822	0 133
5 + 00 AC Surface PCC	2 851 2 740	0 111	2 882 2 758	0 123	2.911 2 783	0 128	2 938 2 810	0 128	2 964 2 838	0 126

AVG	0.130	0.133	0.132	0.137	0.140
MAX	0.162	0.154	0.152	0.154	0.158
MIN	0.111	0.117	0.120	0.125	0.126
STD	0.012	0.010	0.008	0.008	0.010

Arkansas SPS-9 (050902)



Arkansas SPS-9 (050902)

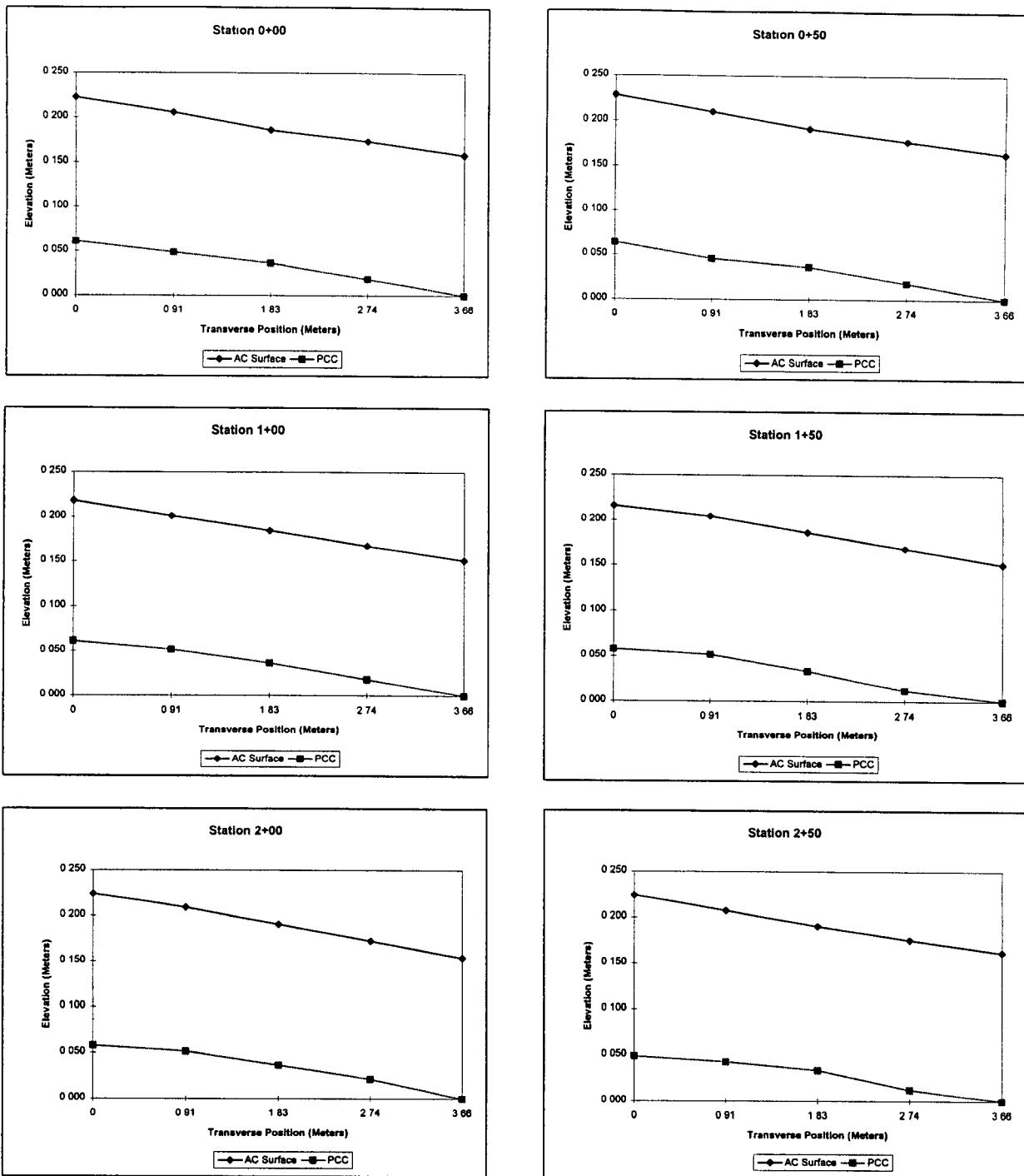


Arkansas SPS-9 (050903)

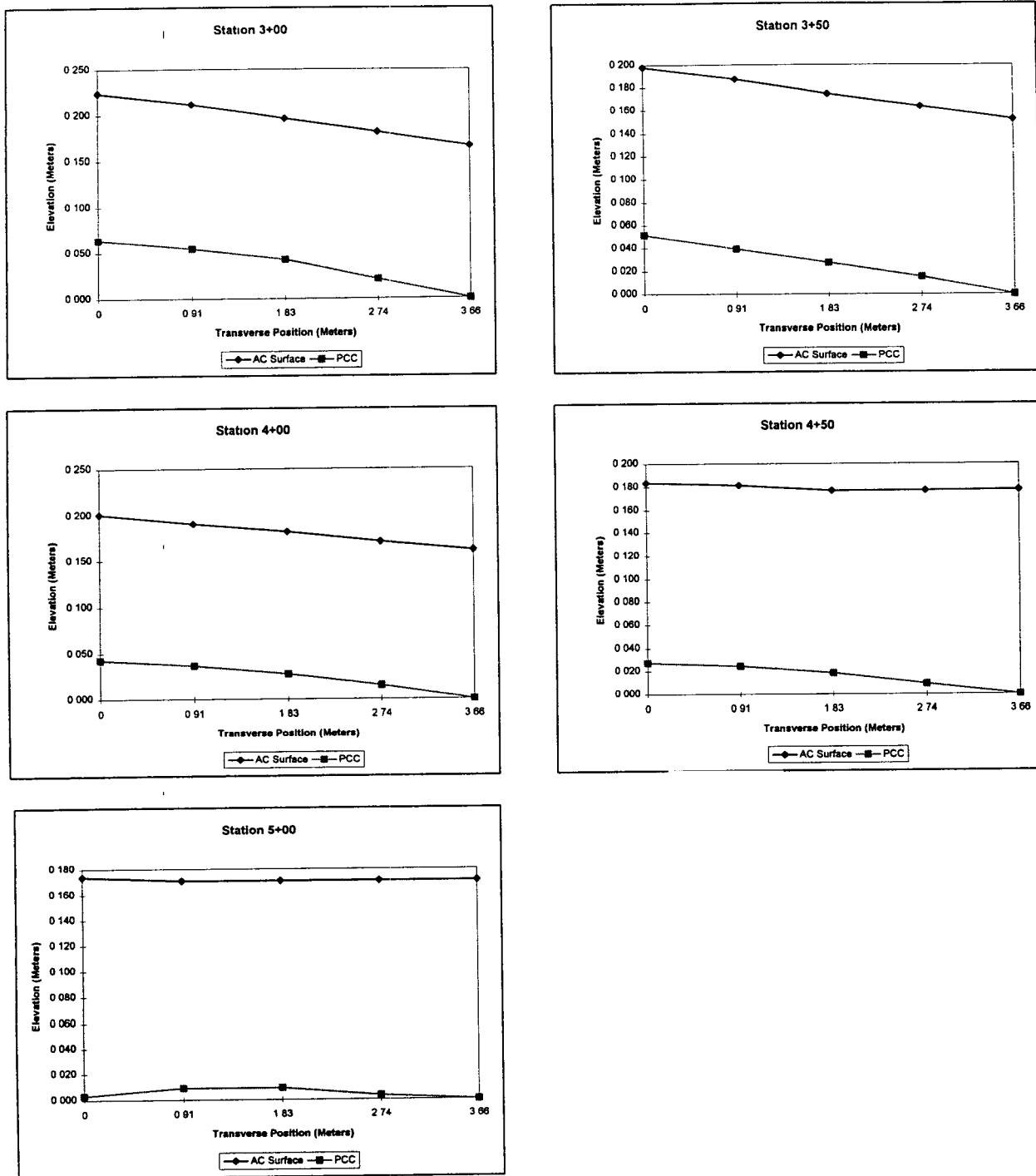
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0+00 AC Surface PCC	2 186 2 024	0 162 2 012	2 169 1 999	0 157 0 150	2 149 1 981	0 150 0 155	2 136 2 115	0 155 0 158	2 121 2 097	0 158 0 163
0+50 AC Surface PCC	2 326 2 161	0 165 2 143	2 307 2 134	0 164 0 155	2 288 2 274	0 155 0 158	2 274 2 243	0 158 0 149	2 260 2 376	0 163 0 151
1+00 AC Surface PCC	2 443 2 286	0 157 2 277	2 426 2 262	0 149 0 148	2 409 2 262	0 148 0 149	2 393 2 243	0 149 0 149	2 376 2 225	0 151 0 151
1+50 AC Surface PCC	2 545 2 387	0 158 2 380	2 533 2 380	0 153 0 153	2 515 2 362	0 153 0 153	2 498 2 341	0 157 0 157	2 480 2 329	0 151 0 151
2+00 AC Surface PCC	2 632 2 466	0 166 2 460	2 617 2 464	0 157 0 154	2 598 2 444	0 154 0 157	2 580 2 429	0 151 0 151	2 562 2 408	0 154 0 154
2+50 AC Surface PCC	2 681 2 505	0 175 2 499	2 664 2 499	0 165 0 165	2 647 2 490	0 157 0 157	2 632 2 469	0 163 0 163	2 618 2 457	0 162 0 162
3+00 AC Surface PCC	2 693 2 533	0 160 2 524	2 681 2 524	0 157 0 148	2 665 2 512	0 153 0 147	2 650 2 499	0 160 0 148	2 635 2 484	0 166 0 152
3+50 AC Surface PCC	2 682 2 536	0 146 2 524	2 672 2 524	0 148 0 148	2 658 2 512	0 147 0 147	2 647 2 499	0 148 0 148	2 636 2 484	0 152 0 152
4+00 AC Surface PCC	2 652 2 493	0 158 2 487	2 641 2 487	0 154 0 154	2 632 2 478	0 154 0 154	2 621 2 466	0 155 0 155	2 612 2 451	0 162 0 162
4+50 AC Surface PCC	2 570 2 414	0 156 2 411	2 568 2 411	0 157 0 157	2 563 2 405	0 158 0 158	2 564 2 396	0 168 0 168	2 564 2 387	0 177 0 177
5+00 AC Surface PCC	2 469 2 298	0 171 2 304	2 466 2 304	0 162 0 162	2 466 2 304	0 162 0 004	2 466 2 298	0 168 0 006	2 466 2 295	0 171 0 008

AVG	0 161	0 157	0 154	0 158	0 161
MAX	0 175	0 165	0 162	0 168	0 177
MIN	0 146	0 148	0 147	0 148	0 151
STD	0.007	0 005	0.004	0.006	0.008

Arkansas SPS-9 (050903)



Arkansas SPS-9 (050903)

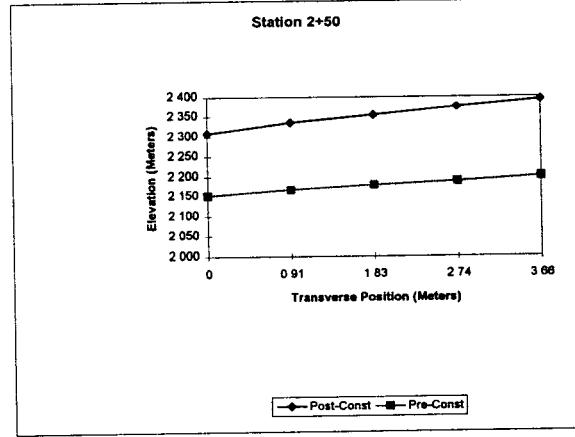
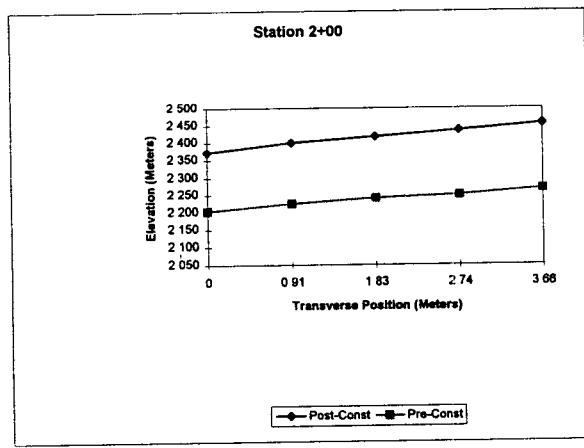
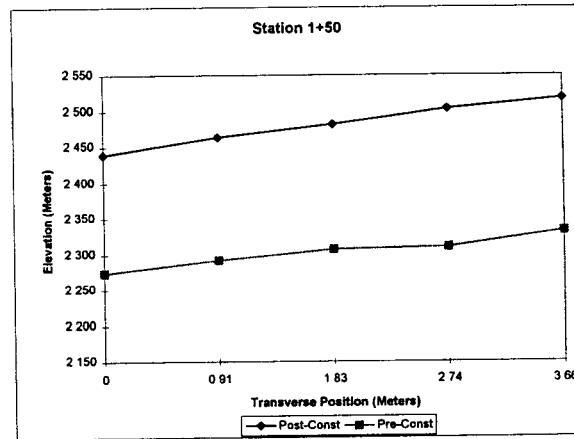
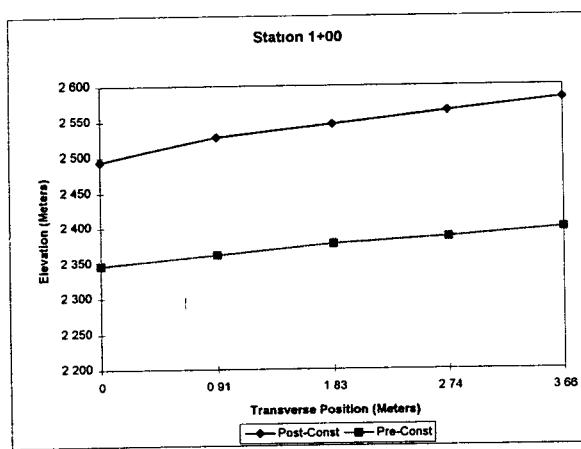
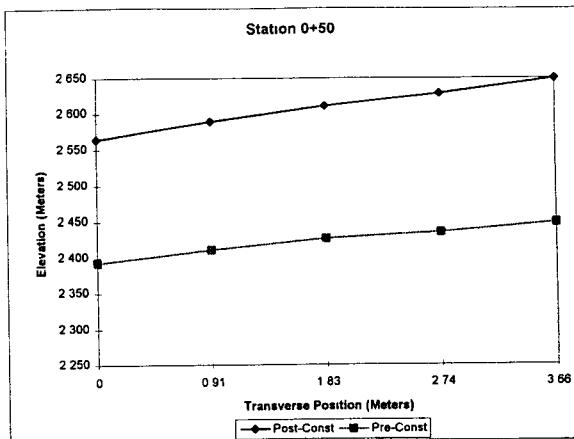
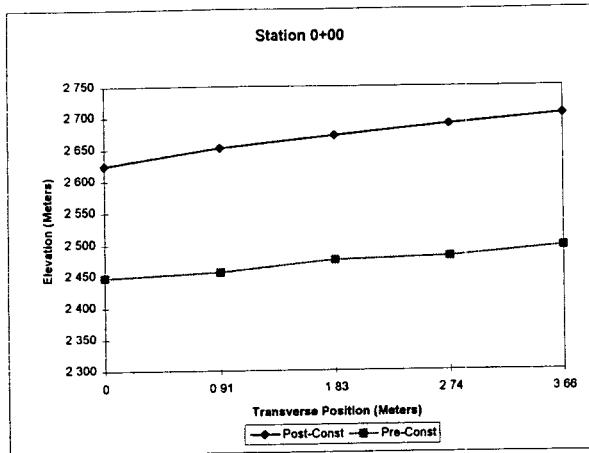


Arkansas SPS-9 (050959)

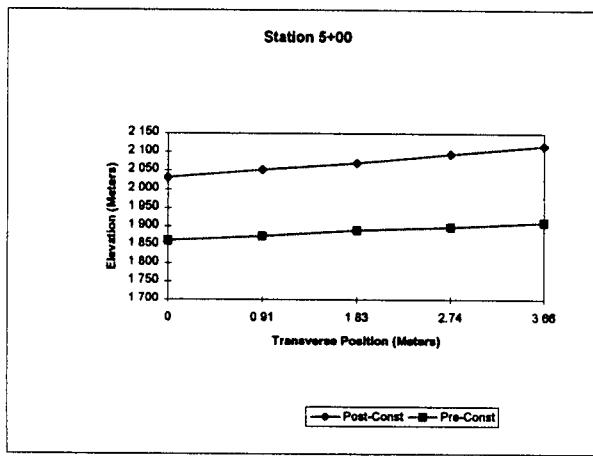
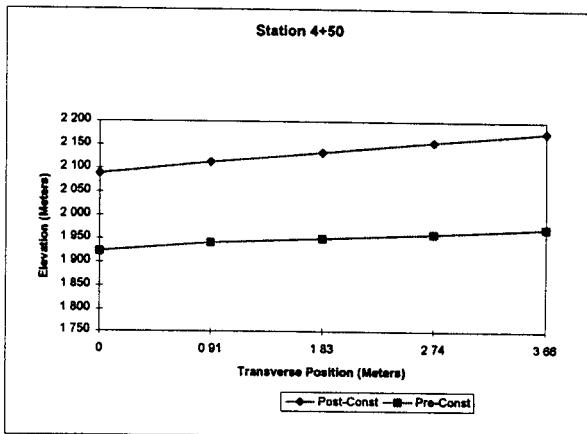
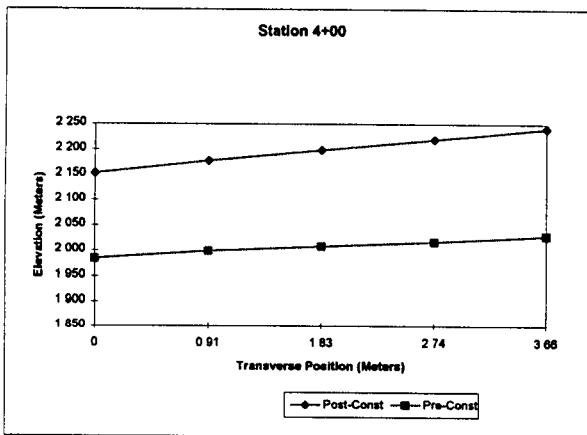
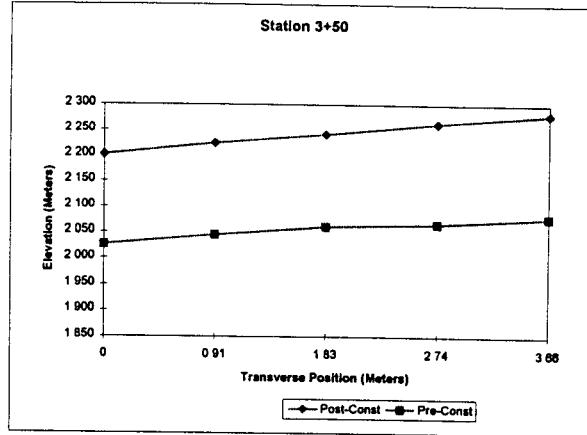
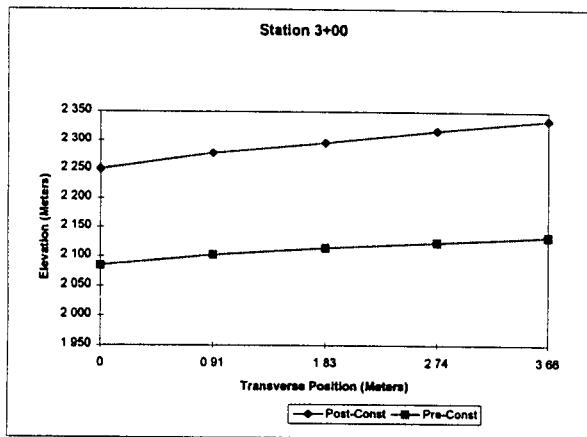
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0 + 00	Post-Const Pre-Const	2 625 2 448	0 178	2 653 2 457	0 196	2 671 2 475	0 196	2 689 2 481	0 208	2 705 2 496	0 208
0 + 50	Post-Const Pre-Const	2 564 2 393	0 172	2 589 2 411	0 178	2 610 2 426	0 184	2 628 2 435	0 193	2 650 2 448	0 202
1 + 00	Post-Const Pre-Const	2 494 2 347	0 147	2 528 2 362	0 166	2 546 2 377	0 169	2 564 2 387	0 178	2 583 2 399	0 184
1 + 50	Post-Const Pre-Const	2 439 2 274	0 166	2 464 2 292	0 172	2 482 2 307	0 175	2 503 2 310	0 193	2 519 2 332	0 187
2 + 00	Post-Const Pre-Const	2 372 2 204	0 169	2 400 2 225	0 175	2 418 2 240	0 178	2 436 2 249	0 187	2 455 2 268	0 187
2 + 50	Post-Const Pre-Const	2 308 2 152	0 156	2 336 2 167	0 169	2 354 2 179	0 175	2 375 2 188	0 187	2 394 2 201	0 193
3 + 00	Post-Const Pre-Const	2 250 2 085	0 166	2 278 2 103	0 175	2 296 2 115	0 181	2 317 2 124	0 193	2 336 2 134	0 202
3 + 50	Post-Const Pre-Const	2 202 2 027	0 175	2 223 2 045	0 178	2 241 2 060	0 181	2 263 2 067	0 196	2 281 2 079	0 202
4 + 00	Post-Const Pre-Const	2 153 1 984	0 169	2 177 1 999	0 178	2 199 2 009	0 190	2 220 2 018	0 202	2 241 2 030	0 211
4 + 50	Post-Const Pre-Const	2 089 1 923	0 166	2 113 1 942	0 172	2 135 1.951	0 184	2 156 1 960	0 196	2 177 1 972	0 205
5 + 00	Post-Const Pre-Const	2 031 1 862	0 169	2 052 1 875	0 178	2 071 1 890	0 181	2 095 1 899	0 196	2 116 1 911	0 205

AVG	0 166	0 176	0.181	0.194	0 200
MAX	0 178	0.196	0.196	0 208	0 211
MIN	0.178	0.196	0 196	0.208	0 211
STD	0 008	0 008	0 007	0 008	0 009

Arkansas SPS-9 (050959)



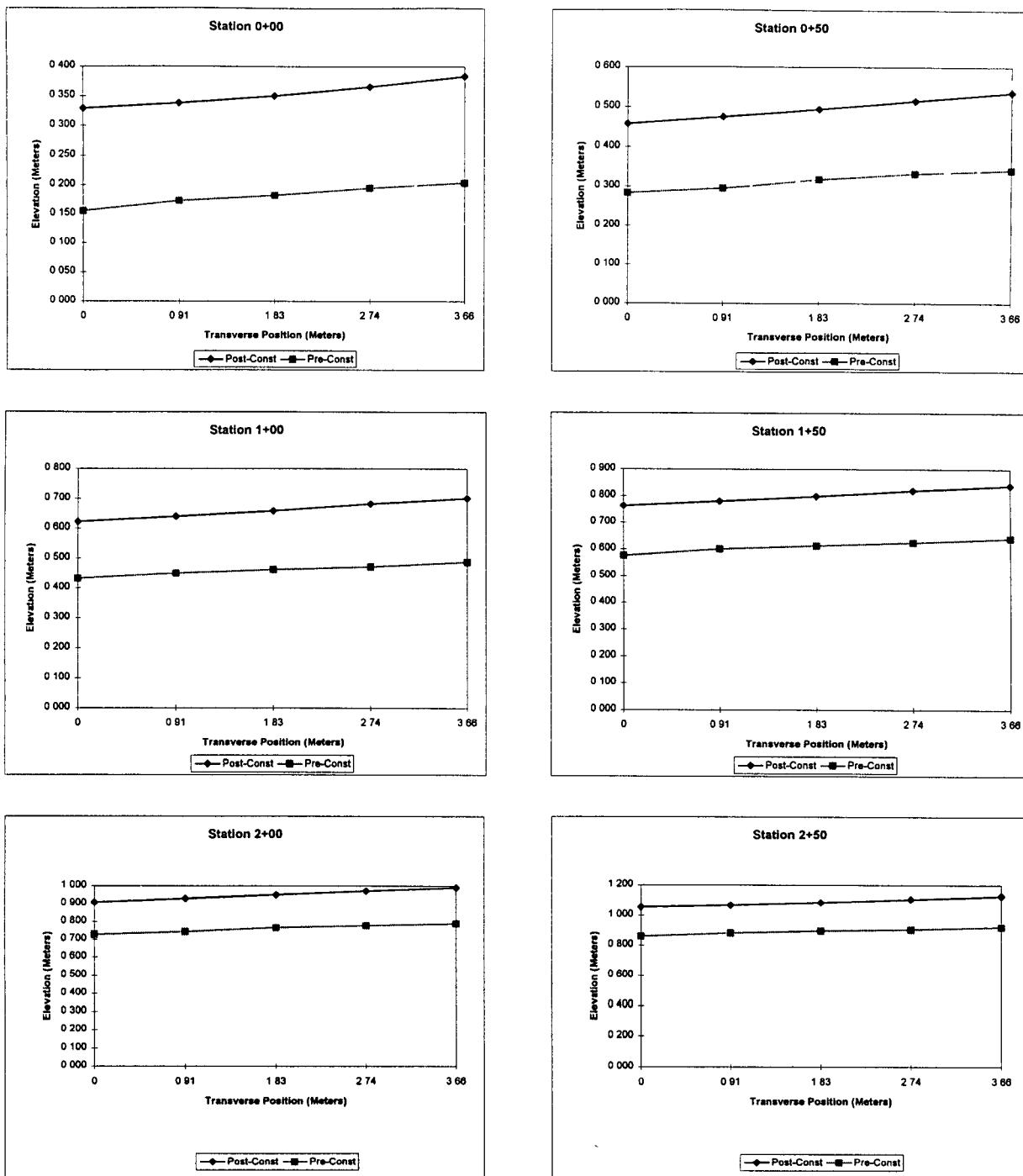
Arkansas SPS-9 (050959)



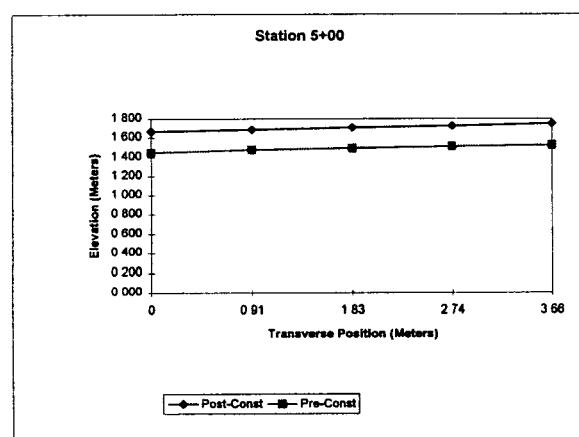
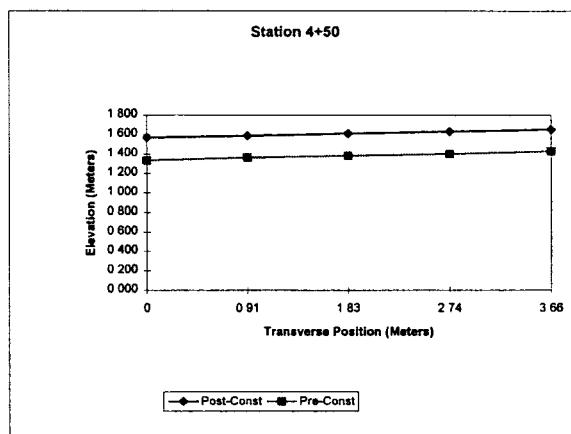
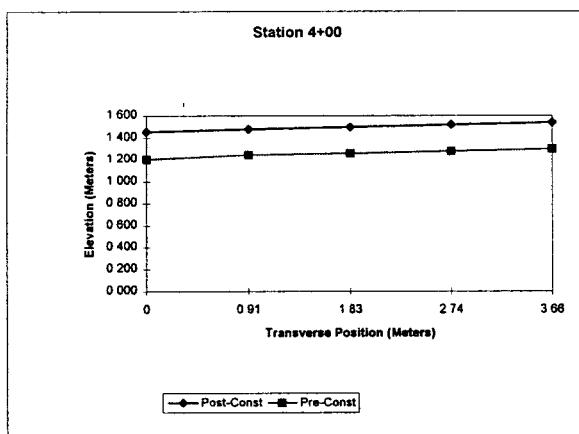
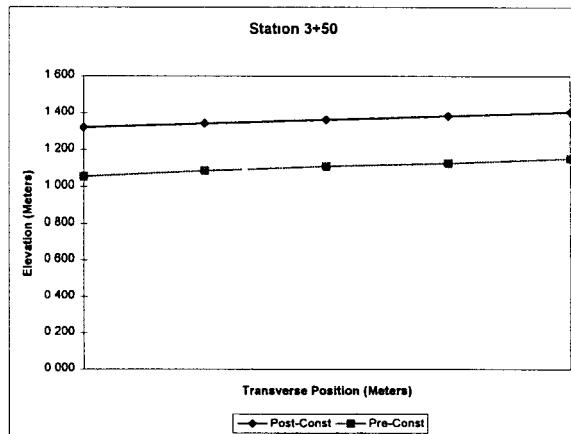
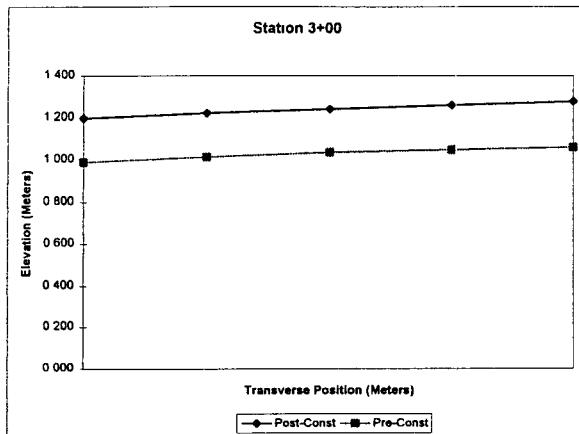
Arkansas SPS-9 (050960)

Transverse Offset LAYERS	ELEVATION 0 Meters	Post-Const THICKNESS Meters	ELEVATION 0.91 Meters	Post-Const THICKNESS Meters	ELEVATION 1.83 Meters	Post-Const THICKNESS Meters	ELEVATION 2.74 Meters	Post-Const THICKNESS Meters	ELEVATION 3.66 Meters	Post-Const THICKNESS Meters
0 + 00 Post-Const Pre-Const	0.329 0.155	0.174 0.174	0.338 0.183	0.165 0.168	0.351 0.195	0.168 0.195	0.366 0.171	0.171 0.180	0.384 0.204	0.180
0 + 50 Post-Const Pre-Const	0.457 0.283	0.174 0.296	0.475 0.317	0.180 0.177	0.494 0.332	0.177 0.183	0.515 0.341	0.183 0.195	0.536 0.341	0.195
1 + 00 Post-Const Pre-Const	0.622 0.433	0.189 0.451	0.640 0.463	0.189 0.195	0.658 0.472	0.195 0.210	0.683 0.701	0.210 0.213	0.701 0.488	0.213
1 + 50 Post-Const Pre-Const	0.762 0.576	0.186 0.600	0.780 0.613	0.180 0.186	0.799 0.625	0.186 0.195	0.820 0.640	0.195 0.198	0.838 0.640	0.198
2 + 00 Post-Const Pre-Const	0.908 0.728	0.180 0.744	0.930 0.765	0.186 0.186	0.951 0.777	0.186 0.195	0.972 0.991	0.195 0.201	0.991 0.789	0.201
2 + 50 Post-Const Pre-Const	1.055 0.860	0.195 0.881	1.067 0.896	0.186 0.189	1.085 0.905	0.189 0.201	1.106 1.128	0.201 0.207	1.128 0.920	0.207
3 + 00 Post-Const Pre-Const	1.198 0.991	0.207 1.015	1.222 1.036	0.207 0.204	1.241 1.049	0.204 0.213	1.262 1.280	0.213 0.219	1.280 1.061	0.219
3 + 50 Post-Const Pre-Const	1.323 1.055	0.268 1.085	1.344 1.109	0.259 0.253	1.362 1.128	0.253 0.256	1.384 1.405	0.256 0.253	1.405 1.152	0.253
4 + 00 Post-Const Pre-Const	1.457 1.201	0.256 1.244	1.478 1.259	0.235 0.241	1.500 1.280	0.241 0.241	1.521 1.542	0.241 1.298	1.542 1.298	0.244
4 + 50 Post-Const Pre-Const	1.570 1.332	0.238 1.362	1.591 1.384	0.229 0.232	1.615 1.402	0.232 0.232	1.634 1.655	0.232 1.430	1.655 1.430	0.226
5 + 00 Post-Const Pre-Const	1.664 1.448	0.216 1.478	1.686 1.494	0.207 0.213	1.707 1.512	0.213 0.213	1.725 1.750	0.213 0.226	1.750 1.524	0.226
Avg	0.208		0.204		0.206		0.212		0.216	
Max	0.268		0.259		0.253		0.256		0.253	
Min	0.174		0.165		0.168		0.171		0.180	
Std	0.032		0.028		0.027		0.025		0.021	

Arkansas SPS-9 (050960)



Arkansas SPS-9 (050960)



APPENDIX E
CONSTRUCTION DATA

August 1995

SPS-9A CONSTRUCTION DATA SHEET 3 REFERENCE PROJECT STATION TABLE	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [0 9] [0 0]
--	--	-------------------------

ORDER	*1 TEST SECTION ID NO	REFERENCE PROJECT STATION NUMBER		*4 CUT-FILL TYPE
		*2 START	*3 END	
1	0 5 0 9 0 2	0 + 0 0	5 + 0 0	02
2	0 5 0 9 0 3	— — — 0 + 0 0	— — — 5 + 0 0	01
3	0 5 0 9 5 1	— — — 0 + 0 0	— — — 5 + 0 0	01
4	0 5 0 9 6 0	— — — 0 + 0 0	— — — 5 + 0 0	2
5	— — — — —	— — — + — —	— — — + — —	—
6	— — — — —	— — — + — —	— — — + — —	—
7	— — — — —	— — — + — —	— — — + — —	—
8	— — — — —	— — — + — —	— — — + — —	—
9	— — — — —	— — — + — —	— — — + — —	—
10	— — — — —	— — — + — —	— — — + — —	—
11	— — — — —	— — — + — —	— — — + — —	—
12	— — — — —	— — — + — —	— — — + — —	—
13	— — — — —	— — — + — —	— — — + — —	—
14	— — — — —	— — — + — —	— — — + — —	—
15	— — — — —	— — — + — —	— — — + — —	—
16	— — — — —	— — — + — —	— — — + — —	—
17	— — — — —	— — — + — —	— — — + — —	—
18	— — — — —	— — — + — —	— — — + — —	—
19	— — — — —	— — — - — —	— — — + — —	—
20	— — — — —	— — — + — —	— — — + — —	—

*5 INTERSECTIONS BETWEEN TEST SECTION ON THE PROJECT

ROUTE	PROJECT STATION NO	RAMPS	INTERSECTION		
		EXIT	ENT	STOP SIGNAL	UNSIG
— — — — —	— — — + — —	—	—	—	—
— — — — —	— — — - — —	—	—	—	—
— — — — —	— — — + — —	—	—	—	—

Note 1 Indicate the type of subgrade construction the test section is located on.
 Cut ... 1 Fill. . 2 At-Grade . . 3 Cut and Fill. . . 4

If a section contains both cut and fill portions (code 4 above), enter the details of the cut and fill locations on SPS-1 Construction Data Sheet 11

Karen W. Dunn, E. PLCE, EP BRE

DATE 4-23-97

August 1995

SPS CONSTRUCTION DATA -- SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>7</u>] [<u>0</u> <u>1</u>]
*1. LANE WIDTH (ft)		[<u>1</u> <u>2</u>]	
2. MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)		[<u>1</u>]	
*3. SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section... 1 Intermittent... 2 None... 3		[<u>1</u>]	
*4. SUBSURFACE DRAINAGE TYPE No Subsurface Drainage... 1 Longitudinal Drains... 2 Transverse Drains... 3 Drainage Blanket... 4 Well System... 5 Drainage Blanket with Longitudinal Drains... 6 Other (Specify)... 7		[<u>2</u>]	
SHOULDER DATA		<u>INSIDE SHOULDER</u>	<u>OUTSIDE SHOULDER</u>
*5. SURFACE TYPE Turf... 1 Granular... 2 Asphalt Concrete. 3 Concrete... 4 Surface Treatment. 5 Other (Specify) ... 6		[<u>3</u>]	[<u>3</u>]
*6. TOTAL WIDTH (ft)		[<u>2</u> <u>6</u> . <u>1</u>]	[<u>2</u> <u>0</u>]
*7. PAVED WIDTH (ft)		[<u>2</u> <u>4</u>]	[<u>2</u> <u>0</u>]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)		[<u>2</u> <u>1</u>]	[<u>2</u> <u>1</u>]
9. SURFACE THICKNESS (inch)		[<u>5</u> . <u>5</u>]	[<u>5</u> <u>5</u>]
10. SHOULDER BASE THICKNESS (inch)		[<u>5</u> <u>0</u>]	[<u>5</u> <u>0</u>]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (inch)		[<u>4</u> <u>0</u>]	
12. SPACING OF LATERALS (ft)		[<u>2</u> <u>5</u> <u>0</u>]	
13. TYPE OF PAVEMENT (See Table A.4 of the SHRP Data Collection Guide)		[<u>2</u> <u>8</u>]	

ZHD BRE

DATE 2-28-97

SPS-9 'CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS			* STATE CODE <u>05</u> * SPS PROJECT CODE <u>09</u> * TEST SECTION NO <u>159</u>
---	--	--	--

01

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (in.)			
			AVERAGE	MINIMUM	MAXIMUM	STD DEV
1	SUBGRADE (7)	<u>53</u>	INCH.	INCH.	INCH.	INCH.
2	<u>05</u>	<u>27</u>	<u>6.0</u>	<u>—</u>	<u>—</u>	<u>—</u>
3	<u>03</u>	<u>04</u>	<u>10.0</u>	<u>—</u>	<u>—</u>	<u>—</u>
4	<u>04</u>	<u>01</u>	<u>10</u>	<u>—</u>	<u>—</u>	<u>—</u>
5	<u>04</u>	<u>01</u>	<u>4.0</u>	<u>—</u>	<u>—</u>	<u>—</u>
6	<u>01</u>	<u>01</u>	<u>2.0</u>	<u>—</u>	<u>—</u>	<u>—</u>
7	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
8	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
9	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
10	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
11	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
12	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
13	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
14	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
15	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

* See original Data sheets for Binder & Surface (Combined) info.

5 DEPTH BELOW SURFACE TO "RIGID" LAYER (ft) > 20 — — —

(Rock, Stone, Dense Shale)

NOTES

- Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.
- Layer description codes:
 Overlay 01 Base Layer.....05 Porous Friction Course..09
 Seal/Tack Coat..... 02 Surface Layer06 Surface Treatment.10
 Original Surface.... 03 Subgrade07 Embankment (Fill)11
 HMAC Layer (Subsurface) 04 Interlayer08
- The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.
- Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARED Linda W. Anderson EMPLOYER BRE

DATE 5-27-97

ENTERED MAY 28 1997 A.S

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[0 5] [0 9] [5 9]

*1. LAYER NUMBER (FROM SHEET 4)	Level (Up [] 4)		
COMPOSITION OF COARSE AGGREGATE			
*2. Crushed Stone... 1	Gravel . 2	Crushed Gravel... [1]	[] 60.
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[]	[] [] .]
*4. Other (Specify)... 6		[]	[] [] .]
COMPOSITION OF FINE AGGREGATE		TYPE	PERCENT
*5. Natural Sand... 1	Crushed or Manufactured Sand	[]	[] [] .]
*6. (From Crushed Gravel or Stone)... 2		[2]	[] 39]
*7. Recycled Concrete... 3	Other... 4	[4]	[] [] .]
(Specify) Batesville Lime			
*8. TYPE OF MINERAL FILLER	Batesville Lime	[2]	1%
Stone Dust.. 1	Hydrated Lime... 2	Portland Cement... 3	
Fly Ash . 4	None ... 5		
Other (Specify)	6		
BULK SPECIFIC GRAVITIES			
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)		[2 6 0 7]	
*10. Fine Aggregate (AASHTO T84 or ASTM C128)		[2 5 8 3]	
*11. Mineral Filler (AASHTO T100 or ASTM D854)		[] [] .]	
*12. Aggregate Combination (Calculated)		[] [] .]	
13 Effective Specific Gravity of Aggregate Combination (Calculated)		[] [] .]	
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A 13)			
TYPE OF AGGREGATE		TYPE OF TEST	RESULTS
14 Coarse		[] []	[] [] . [] []]
15 Coarse		[] []	[] [] . [] []]
16 Coarse		[] []	[] [] . [] []]
17 Coarse and Fine - Combined		[] []	[] [] . [] []]
18 POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)			[] []

$$9. \frac{(0.29 \times 2.612) + (0.31 \times 2.603)}{6} = 2.607$$

$$10. \frac{(0.26 \times 2.574) + (0.09 \times 2.599) + (0.05 \times 2.603)}{(2.26 + 0.8 + 0.5)} = 2.5826$$

Z 71 BRE

DATE 4-21-97

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SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [0 9] [5 9]
---	--	-------------------------

*1. LAYER NUMBER (FROM SHEET 4)	Binder	[5]
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel .. 2	Crushed Gravel.. [1] [60.]
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[] []
*4. Other (Specify) . . 6		[] []
COMPOSITION OF FINE AGGREGATE		
*5 Natural Sand... 1	Crushed or Manufactured Sand	[2] [39]
*6 (From Crushed Gravel or Stone) ... 2		[4] []
*7. Recycled Concrete... 3	Other... 4 (Specify) <u>Lime - Mineral Filler</u>	[] []
*8. TYPE OF MINERAL FILLER		[2] 1%
Stone Dust.. 1	Hydrated Lime... 2	Portland Cement. . 3
Fly Ash. . 4	None 5	
Other (Specify) 6		
BULK SPECIFIC GRAVITIES		
*9 Coarse Aggregate (AASHTO T85 or ASTM C127)		[2 6 0 7]
*10 Fine Aggregate (AASHTO T84 or ASTM C128)		[2 5 8 3]
*11. Mineral Filler (AASHTO T100 or ASTM D854)		[]
*12 Aggregate Combination (Calculated)		[]
13 Effective Specific Gravity of Aggregate Combination (Calculated)		[]
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A 13)		
TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14 Coarse	[]	[]
15 Coarse	[]	[]
16 Coarse	[]	[]
17 Coarse and Fine - Combined	[]	[]
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[]

Z. J. Denison BRE

DATE 4-2-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO. <div style="text-align: center; margin-top: 10px;"> $\begin{array}{ c c } \hline 0 & 5 \\ \hline 2 & 9 \\ \hline 3 & 4 \\ \hline \end{array}$ </div>
---	---

*1. LAYER NUMBER (FROM SHEET 4)	Surface [6]		
COMPOSITION OF COARSE AGGREGATE			
*2. Crushed Stone. . 1	Gravel .. 2	Crushed Gravel.. [1]	[43 ..]
*3. Crushed Slag .. 4	Manufactured Lightweight... 5 [] []		
*4. Other (Specify) .. 6	[] []		
COMPOSITION OF FINE AGGREGATE		TYPE	PERCENT
*5. Natural Sand... 1	Crushed or Manufactured Sand	[2]	[57]
*6. (From Crushed Gravel or Stone) ... 2		[]	[]
*7. Recycled Concrete... 3	Other... 4	[]	[]
(Specify) _____			
*8. TYPE OF MINERAL FILLER			[5]
Stone Dust. . 1	Hydrated Lime.. 2	Portland Cement. . 3	
Fly Ash... 4	None ... 5		
Other (Specify) 6			
BULK SPECIFIC GRAVITIES			
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)			[2.603]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)			[2.584]
*11. Mineral Filler (AASHTO T100 or ASTM D854)			[]
*12. Aggregate Combination (Calculated)			[]
13 Effective Specific Gravity of Aggregate Combination (Calculated)			[]
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A 13)			
TYPE OF AGGREGATE		TYPE OF TEST	RESULTS
14. Coarse		[]	[]
15. Coarse		[]	[]
16. Coarse		[]	[]
17. Coarse and Fine - Combined		[]	[]
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)			[]

$$10. \frac{(0.35 \times 2.574) + (0.05 \times 2.603) + (0.17 \times 2.598)}{0.57} = 2.5837$$

----- *Liam W. Dawson* BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES			* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [2 7]
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*1. LAYER NUMBER (FROM SHEET 4)	(4)	
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel. [1] [6 0]
*3. Crushed Slag ... 4	Manufactured Lightweight... 5	[] []
*4. Other (Specify) ... 6		[] []
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand.. 1	Crushed or Manufactured Sand	[] []
*6. (From Crushed Gravel or Stone). 2		[2] [3 9]
*7. Recycled Concrete .. 3	Other.. 4	[4] []
(Specify) Batesville Lime		
*8. TYPE OF MINERAL FILLER	(2) 1%	
Stone Dust.. 1	Hydrated Lime... 2	Portland Cement 3
Fly Ash... 4	None .. 5	
Other (Specify) .. 6		
BULK SPECIFIC GRAVITIES		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	(2) 6 0 7	
*10. Fine Aggregate (AASHTO T94 or ASTM C128)	(2) 5 8 3	
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[]	
*12. Aggregate Combination (Calculated)	[]	
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[]	
14. Angularity	One Face	Two Faces
Coarse (% Fractured Faces)	[]	[]
Fine (% Voids)	[]	[]
15. Soundness	Test Type	Result
Coarse (Type of Test From A.13, % loss)	[0 3]	[]
Fine (Type of Test From A.13, % loss)	[0 3]	[]
16. Toughness of Coarse Aggregate (% loss LAR)	[0 1]	[]
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[0 9]	[]
18. Clay Content (Sand Equivalent, ratio)	[]	
19. Thin, Elongated Particles (%)	[]	

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4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>7</u>] * TEST SECTION NO. [<u>5</u> <u>2</u>]
---	--

*1. LAYER NUMBER (FROM SHEET 4)	[<u>5</u>]
COMPOSITION OF COARSE AGGREGATE	
*2. Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[<u>1</u>] [<u>6</u> <u>0</u>]
*3. Crushed Slag... 4 Manufactured Lightweight... 5	[<u> </u>] [<u> </u> <u> </u>]
*4. Other (Specify) ... 6	[<u> </u>] [<u> </u> <u> </u>]
COMPOSITION OF FINE AGGREGATE	
*5. Natural Sand .. 1 Crushed or Manufactured Sand	[<u>2</u>] [<u>3</u> <u>9</u>]
*6. (From Crushed Gravel or Stone)... 2	[<u>4</u>] [<u> </u> <u>1</u>]
*7. Recycled Concrete. . 3 Other. . 4 (Specify) <u>Lime-Mineral Filler</u>	[<u> </u>] [<u> </u> <u> </u>]
*8. TYPE OF MINERAL FILLER Stone Dust... 1 Hydrated Lime.. 2 Portland Cement... 3 Fly Ash. . 4 None ... 5 Other (Specify) ... 6	[<u>2</u>] 1%
BULK SPECIFIC GRAVITIES	
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[<u>2</u> <u>6</u> <u>0</u> <u>7</u>]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	[<u>2</u> <u>5</u> <u>8</u> <u>3</u>]
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[<u> </u> <u> </u> <u> </u>]
*12. Aggregate Combination (Calculated)	[<u> </u> <u> </u> <u> </u>]
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[<u> </u> <u> </u> <u> </u>]
14. Angularity	One Face [<u> </u> <u> </u>] Two Faces [<u> </u> <u> </u>]
Coarse (% Fractured Faces)	[<u> </u> <u> </u>]
Fine (% Voids)	[<u> </u> <u> </u>]
15. Soundness	Test Type [<u> </u> <u> </u>] Result [<u> </u> <u> </u>]
Coarse (Type of Test From A.13, % loss)	[<u>0</u> <u>3</u>] [<u> </u> <u> </u>]
Fine (Type of Test From A.13, % loss)	[<u>0</u> <u>3</u>] [<u> </u> <u> </u>]
16. Toughness of Coarse Aggregate (% loss LAR)	[<u>0</u> <u>1</u>] [<u> </u> <u> </u>]
17. Detrimentous Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[<u>0</u> <u>9</u>] [<u> </u> <u> </u>]
18. Clay Content (Sand Equivalent, ratio)	[<u> </u> <u> </u>]
19. Thin, Elongated Particles (%)	[<u> </u> <u> </u>]

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DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [2 2]
---	--	---

*1. LAYER NUMBER (FROM SHEET 4)	(6)			
COMPOSITION OF COARSE AGGREGATE				
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel... [1]	TYPE	PERCENT
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[1]	[4 3 .]	
*4. Other (Specify)... 6		[1]	[____ .]	
COMPOSITION OF FINE AGGREGATE			TYPE	PERCENT
*5. Natural Sand.. 1	Crushed or Manufactured Sand	[2]	[5 7]	
*6. (From Crushed Gravel or Stone)... 2		[1]	[____ .]	
*7. Recycled Concrete . 3	Other.. 4 (Specify) _____	[1]	[____ .]	
*8. TYPE OF MINERAL FILLER.			(5)	
Stone Dust. . 1	Hydrated Lime. 2	Portland Cement.. 3		
Fly Ash. 4	None . 5			
Other (Specify) 6				
BULK SPECIFIC GRAVITIES				
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)			[2 6 0 3]	
*10. Fine Aggregate (AASHTO T34 or ASTM C128)			[2 5 8 4]	
*11. Mineral Filler (AASHTO T100 or ASTM D854)			[____ .]	
*12. Aggregate Combination (Calculated)			[____ .]	
13. Effective Specific Gravity of Aggregate Combination (Calculated)			[____ .]	
14. Angularity	One Face	Two Faces		
Coarse (% Fractured Faces)	[____ .]	[____ .]		
Fine (% Voids)	[____ .]	[____ .]		
15. Soundness	Test Type	Result		
Coarse (Type of Test From A 13, % loss)	[0 3]	[____ .]		
Fine (Type of Test From A 13, % loss)	[0 3]	[____ .]		
16. Toughness of Coarse Aggregate (% loss LAR)	[0 1]	[____ .]		
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A 13, % loss)	[0 9]	[____ .]		
18. Clay Content (Sand Equivalent, ratio)			[____ .]	
19. Thin, Elongated Particles (%)			[____ .]	

A. W. Dunn BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [0 9] [6 4]
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- *1. LAYER NUMBER (FROM SHEET 4) Level Up [4]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) P.G. 76-22 []
- (IF OTHER, SPECIFY)
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) Ergon & Memphis, TN []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) 1.028

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) []
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) []
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g., 5 sec.) []
- ASPHALT MODIFIERS (SEE TYPE CODE, A.15)
- | | TYPE | QUANTITY (%) |
|--|------|--------------|
| 8. MODIFIER #1 <u>Unknown quantity</u> | [] | [] |
| 9. MODIFIER #2
(IF OTHER, SPECIFY) <u>SBS - mod. fier</u> | [] | [] |
| 10. DUCTILITY AT 77°F (cm)
(AASHTO TS1) | [] | |
| 11. DUCTILITY AT 39.2°F (cm)
(AASHTO TS1) | [] | |
| 12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°F (CM/MIN) | [] | |
| 13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
(200 g., 60 sec.) | [] | |
| 14. RING AND BALL SOFTENING POINT (AASHTO TS3) (°F) | [] | |

NOTE. If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Properties"

2/10

----- RRF

4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>5</u> <u>7</u>]

- *1. LAYER NUMBER (FROM SHEET 4) *Binder* [5]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) *P.G. 76-22* []
(IF OTHER, SPECIFY)
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) *Ergon Memphis, TN* []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1.028]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [- - - -]
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [- - - -]
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g., 5 sec.) [-]
- ASPHALT MODIFIERS (SEE TYPE CODE, A 15) TYPE QUANTITY (%)
8. MODIFIER #1 *Unknown quantity* [] []
9. MODIFIER #2
(IF OTHER, SPECIFY) *SBS modifier* [] []
10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [-]
11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [-]
12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°F (CM/MIN) [-]
13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
(200 g., 60 sec.) [- .]
14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [-]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

----- *Z. D. Dunn* BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>8</u> <u>7</u>]
--	--	---

- *1. LAYER NUMBER (FROM SHEET 4) SURFACE [6]
 *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) P.6. 76-22 []
 *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)? Ergon & Memphis, TN []
 4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.028]
 (AASHTO T228)

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
 (AASHTO T202) []

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
 (AASHTO T202) []

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
 (100 g, 5 sec.) []

ASPHALT MODIFIERS (SEE TYPE CODE, A.15) TYPE QUANTITY (%)

8. MODIFIER #1 Unknown quantity [] []

9. MODIFIER #2
 (IF OTHER, SPECIFY) SBS [] []

10. DUCTILITY AT 77°F (cm)
 (AASHTO T51) []

11. DUCTILITY AT 39.2°F (cm)
 (AASHTO T51) []

12. TEST RATE FOR DUCTILITY MEASUREMENT
 AT 39.2°F (CM/MIN) []

13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
 (200 g, 60 sec.) []

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) []

NOTE. If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

J. D. Dunson BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>5</u> <u>2</u>]
--	--	---

- *1. LAYER NUMBER (FROM SHEET 4) Level Up [4]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [7 6] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) could be 2
(IF OTHER, SPECIFY) Eg. - Memphis, TN (site 2) []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1 0 2 8]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(Tank Asphalt) (AASHTO TP5) [] []
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(RTFO Asphalt) (AASHTO TP5) 11.1 mg Thin Film Oven [] []
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(PAV Asphalt) (AASHTO TP5) Pressure Aging Vessel [] []
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa,RATIO)
(PAV Asphalt) (AASHTO TP1) [] []
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa,RATIO)
(PAV Asphalt) (AASHTO TP3) [] []

No info. Available
(State Supplemental)

LMA

RRE

4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE <u>[<u>0</u> <u>5</u>]</u> * SPS PROJECT CODE <u>[<u>0</u> <u>9</u>]</u> * TEST SECTION NO. <u>[<u>5</u> <u>9</u>]</u>
--	---

- *1. LAYER NUMBER (FROM SHEET 4) Binder [5]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [7 6] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) ? Ergon Memphis, TN []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1 0 2 8]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
 (Tank Asphalt) (AASHTO TPS) [] []
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
 (RTFO Asphalt) (AASHTO TPS) [] []
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
 (PAV Asphalt) (AASHTO TPS) [] []
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa, RATIO)
 (PAV Asphalt) (AASHTO TP1) [] []
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa, RATIO)
 (PAV Asphalt) (AASHTO TP3) [] []

NO info.
 (State Supplemental)

Z 210 RRE DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE <u>[<u>0</u> <u>5</u>]</u> * SPS PROJECT CODE <u>[<u>0</u> <u>9</u>]</u> * TEST SECTION NO. <u>[<u>5</u> <u>2</u>]</u>
--	---

- *1. LAYER NUMBER (FROM SHEET 4) Surface [6]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [7 6] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) 7 Ecolay, Memphis, TN []
(IF OTHER, SPECIFY)
4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1.02 2 8]
GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(Tank Asphalt) (AASHTO TP5) [] []
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(RTFO Asphalt) (AASHTO TP5) [] []
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(PAV Asphalt) (AASHTO TP5) [] []
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa, RATIO)
(PAV Asphalt) (AASHTO TP1) [] []
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa, RATIO)
(PAV Asphalt) (AASHTO TP3) [] []

*No info.
State Supplemental*

Lester W. Dawson BRE

Date 4-21-97

March 1997

SPS-3 CONSTRUCTION DATA SHEET 3 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES - DESIGN	* STATE CODE <u>051</u> * SPS PROJECT CODE <u>091</u> * TEST SECTION NO. <u>591</u> 01
---	--

- *1. LAYER NUMBER (FROM SHEET 4) (6)
- *2. TYPE OF MIX DESIGN (3)
Marshall... 1 HVEEM... 2 SUPERPAVE...
Other (Specify) ...4 _____
3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) 2.440
4. BULK SPECIFIC GRAVITY (ASTM D1138) 2.278
5. ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172) 5.0 ____
6. AIR Voids (PERCENT) 4.1
7. VOIDS IN MINERAL AGGREGATE (PERCENT) 15.5
8. EFFECTIVE ASPHALT CONTENT (PERCENT) —
9. MARSHALL STABILITY (lb) (AASHTO T245 OR ASTM D1559) —
10. NUMBER OF BLOWS —
11. MARSHALL FLOW (0.01 in)
(AASHTO T245 OR ASTM D1559) —
12. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) —
13. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH)
(AASHTO T246 OR ASTM 1561) —
14. SUPERPAVE GYRATORY COMPACTION N_{100mm} 169
15. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) —
16. SUPERPAVE ASPHALT BINDER GRADE 26 - 22

PREPARER James W. Dunne EMPLOYER BRE DATE 5-27-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [5 9]	
P-6-76-22 Level Up [4] [2]			
*1.	LAYER NUMBER (FROM SHEET 4)		
*2	TYPE OF SAMPLES SAMPLES COMPACTED IN LABORATORY... 1 SAMPLES TAKEN FROM TEST SECTION... 2		
*3.	MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041)		
[2 4 3 3]			
BULK SPECIFIC GRAVITY (ASTM D1188)			
*4.	MEAN	[2.2 9 9]	NUMBER OF TESTS [1 7] MAXIMUM [2.3 4 7] STD. DEV [0.0 3 1]
5.	MINIMUM	[2.2 3 5]	
6.			
ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)			
*7.	MEAN	[5.0]	NUMBER OF SAMPLES [1 6] MAXIMUM [5.2] STD. DEV [0.1]
8.	MINIMUM	[4.8]	
9.			
PERCENT AIR Voids			
*10.	MEAN	[3.8]	NUMBER OF SAMPLES [3 4] MAXIMUM [4.7] STD. DEV [0.6]
11.	MINIMUM	[3.0]	
12.			
*13.	VOIDS IN MINERAL AGGREGATE (PERCENT)		
*14.	EFFECTIVE ASPHALT CONTENT (PERCENT)		
*15.	FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)		
	4°C	20°C	40°C
	[]	[]	[]
*16.	UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)		
	4°C	20°C	40°C
	[]	[]	[]
*17.	VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)		
	4°C	20°C	40°C
	[]	[]	[]
*18.	SIMPLE SHEAR	Axial Stress, kPa Shear Stress, kPa Shear Strain mm/mm	4°C [] 20°C [] 40°C []
*19.	TYPE OF ANTISTRIPPING AGENT USED (SEE TYPE CODES, TABLE A.21)		
	None Used		
*20.	AMOUNT OF ANTISTRIPPING AGENT USED		LIQUID OR SOLID CODE []
*21.	(If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight)		[]

John J. Deacon RRE

DATE 8-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>S</u> <u>9</u>]

- *1. LAYER NUMBER (FROM SHEET 4) P.6.76-22 Binder [5] [2]
- *2. TYPE OF SAMPLES
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2
- *3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) [2.433]
- BULK SPECIFIC GRAVITY (ASTM D1188)
- *4. MEAN [2.299] NUMBER OF TESTS [17]
5. MINIMUM [2.235] MAXIMUM [2.347]
6. STD. DEV. [0.031]
- ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)
- *7. MEAN [5.0] NUMBER OF SAMPLES [16]
8. MINIMUM [4.8] MAXIMUM [5.2]
9. STD. DEV. [2.1]
- PERCENT AIR Voids
- *10. MEAN [3.8] NUMBER OF SAMPLES [34]
11. MINIMUM [3.0] MAXIMUM [4.7]
12. STD. DEV. [0.6]
- *13. VOIDS IN MINERAL AGGREGATE (PERCENT) [153]
- *14. EFFECTIVE ASPHALT CONTENT (PERCENT) []
- *15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)
4°C 20°C 40°C
[] [] [] [] [] []
- *16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)
4°C 20°C 40°C
[] [] [] [] [] []
- *17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)
4°C 20°C 40°C
[] [] [] [] [] []
- *18. SIMPLE SHEAR
Axial Stress, kPa 4°C 20°C 40°C
Shear Stress, kPa [] [] []
Shear Strain mm/mm [] [] []
- *19. TYPE OF ANTISTRIPPING AGENT USED
(SEE TYPE CODES, TABLE A.21) None Used []
OTHER (SPECIFY) _____
- *20. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE []
- *21. (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight.) [.]



EMPLOYER B.R.E.

DATE 4-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>5</u> <u>9</u>]
P-676-22		
*1 LAYER NUMBER (FROM SHEET 4)	Surface [<u>6</u>]	
*2 TYPE OF SAMPLES SAMPLES COMPACTED IN LABORATORY... 1 SAMPLES TAKEN FROM TEST SECTION... 2	[<u>2</u>]	
*3 MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041)	[<u>2.445</u>]	
BULK SPECIFIC GRAVITY (ASTM D1188)		
*4 MEAN [<u>2.278</u>]	NUMBER OF TESTS	
5. MINIMUM [<u>2.215</u>]	MAXIMUM [<u>2.312</u>]	
6.	STD. DEV. [<u>0.034</u>]	
ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)		
*7 MEAN [<u>5.1</u>]	NUMBER OF SAMPLES [<u>8</u>]	
8. MINIMUM [<u>4.9</u>]	MAXIMUM [<u>5.2</u>]	
9.	STD. DEV. [<u>0.1</u>]	
PERCENT AIR Voids		
*10 MEAN [<u>4.8</u>]	NUMBER OF SAMPLES [<u>6</u>]	
11. MINIMUM [<u>4.1</u>]	MAXIMUM [<u>5.5</u>]	
12.	STD. DEV. [<u>0.4</u>]	
*13 VOIDS IN MINERAL AGGREGATE (PERCENT)	[<u>16.5</u>]	
*14 EFFECTIVE ASPHALT CONTENT (PERCENT)	[<u>—</u>]	
*15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)	4°C 20°C 40°C [<u>—</u>] [<u>—</u>]	
*16 UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)	4°C 20°C 40°C [<u>—</u>] [<u>—</u>]	
*17 VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)	4°C 20°C 40°C [<u>—</u>] [<u>—</u>]	
*18 SIMPLE SHEAR	4°C 20°C 40°C Axial Stress, kPa [<u>—</u>] [<u>—</u>] [<u>—</u>] Shear Stress, kPa [<u>—</u>] [<u>—</u>] [<u>—</u>] Shear Strain mm/mm [<u>—</u>] [<u>—</u>] [<u>—</u>]	
*19 TYPE OF ANTISTRIPPING AGENT USED (SEE TYPE CODES, TABLE A.21)	None Used	
*20. AMOUNT OF ANTISTRIPPING AGENT USED	LIQUID OR SOLID CODE	
*21. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.)	[<u>—</u>]	

J. D. Hansen

EPMLO.EP

BRE

DATE 4-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 11 CUT-FILL SECTION LOCATIONS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] <u><u>1</u></u> <u><u>1</u></u>
--	--	---

ORDER	*1 CUT-FILL TYPE ¹	TEST SECTION STATION NUMBER	
		*2 START	*3 END
1	<u> </u> <u> </u>	0 + 0 0	— — — 5 + 0 0
2	_____	— — — + — —	— — — + — —
3	_____	— — — + — —	— — — + — —
4	_____	— — — + — —	— — — + — —
5	_____	— — — + — —	— — — + — —
6	_____	— — — + — —	— — — + — —
7	_____	— — — + — —	— — — + — —
8	_____	— — — + — —	— — — + — —
9	_____	— — — + — —	— — — + — —
10	_____	— — — + — —	— — — + — —

NOTES

1. Indicate the type of subgrade construction with one of the following:
Cut... 1 Fill... 2
2. Use one line for each cut or fill zone present within the "section boundaries"

Lance W. Dawson

BRE

3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA			* STATE CODE [<u>O</u> <u>S</u>] * SPS PROJECT CODE [<u>O</u> <u>9</u>] * TEST SECTION NO. [<u>5</u> <u>1</u>]
--	--	--	---

1. DATE SURFACE PREPARATION BEGAN (Month-Day-Year) [1 1 1 8 - 9 6]
2. DATE SURFACE PREPARATION COMPLETED (Month-Day-Year) [1 1 1 8 - 9 6]
3. SURFACE PREPARATION PRIOR TO PLACEMENT OF OVERLAY [3]
 - None..... 1 Broomed. . . . 2 Broomed + Asphaltic Tack Coat . . 3
 - Asphaltic Tack Coat (only)... 4
4. TACK COAT [0 2 ✓]

Material Type	None..... 1 SS-1.... 2 SS-1H.... 3 CRS-1.... 4
	CRS-2.... 5 CMS-2... 6 CMS-2H. 7 CSS-1. . . 8 CSS-1H .. 9
Other....	10 (Specify)
5. TACK COAT DILUTION [5 0 ✓]

(Percent)	Parts Diluent [__ __] TO Parts Asphalt [__ __]
Mixing Rate	
6. TACK COAT APPLICATION RATE (Gal/Sq. Yd.) [0 0 3]
7. ASPHALT CONCRETE PLANT AND HAUL

Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[<u>2</u>] E.C. Rowlett	[<u>3</u> <u>3</u>]	[<u>3</u> <u>5</u>]	[<u>4</u> <u>5</u> <u>6</u>]
Plant 2		[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u> <u>—</u>]
Plant 3		[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u> <u>—</u>]
Plant Type.	Batch.	1 Drum Mix	2 Other. . . 3 Specify	
8. MANUFACTURER OF ASPHALT CONCRETE PAVER BIAW - Knox
9. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF - 5510
10. SINGLE PASS LAYDOWN WIDTH (Feet) [1 3 0]

11 Layer No.	12 Material Type Classification Code	13 Nominal Lift Placement Thickness				14 Tack Coat Between Lifts? (Y/N)	15 Transverse Joint Station
		1 st Lift	2 nd Lift	3 rd Lift	4 th Lift		
[4]	[0 1]	[1 0]	[1]	[1]	[1]	[Y]	[+]
[5]	[0 1]	[4 0]	[1]	[1]	[1]	[Y]	[+]
[6]	[0 1]	[2 0]	[1]	[1]	[1]	[Y]	[-]

16. LOCATION OF LONGITUDINAL SURFACE JOINT [1 1]

Between lanes.	1 Within lane	2 (specify offset from O/S feet)	[<u>1</u> <u>2</u> <u>0</u>]
----------------	---------------	----------------------------------	--------------------------------
17. SIGNIFICANT EVENTS DURING CONSTRUCTION(disruptions, rain, equip. problems, etc.)

Z. H. Johnson BRE

Date 3/7/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [O S] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [6 9] o
---	--	--	---

- *1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *3. LAYER NUMBER [4]
 *4. MIXING TEMPERATURE (°F) [3 1 0.]
 5. LAYDOWN TEMPERATURES (°F)
 Mean..... [2 8 5] Number of Tests [1]
 Minimum..... [2 8 5.] Maximum..... [2 8 5.]
 Standard Deviation... [2.0]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mph)
6	A	Steel-Whl Tandem	— — —				
7	B	Steel-Whl Tandem	— — —				
8	C	Steel-Whl Tandem	— — —				
9	D	Steel-Whl Tandem	— — —				
10	E	Pneumatic-Tired	— — —				
11	F	Pneumatic-Tired	— — —				
12	G	Pneumatic-Tired	— — —				
13	H	Pneumatic-Tired	— — —				
14	I	Single-Drum Vibr.	— — —				
15	J	Single-Drum Vibr.	— — —				
16	K	Single-Drum Vibr.	— — —				
17	L	Single-Drum Vibr.	— — —				
18	M	Double-Drum Vibr.	1 1 8	3 0 0 0	0 2 7		
19	N	Double-Drum Vibr.	— — —				
20	O	Double-Drum Vibr.	— — —				
21	P	Double-Drum Vibr.	— — —				
22	Q	Other	Combination steel (static) drum And rubber tires				

	COMPACTOR DATA	First Lift	Second Lift	Third Lift	Fourth Lift
23	BREAKDOWN Roller Code (A-Q)	M	—	—	—
24	Coverages	— 4	— —	— —	— —
25	INTERMEDIATE Roller Code (A-Q)	—	—	—	—
26	Coverages	— —	— —	— —	— —
27	FINAL Roller Code (A-Q)	Q	—	—	—
28	Coverages	— 2	—	—	—
29	Air Temperature (°F)	65	—	—	—
30	Compacted Thickness (in)	— 1 0	—	—	—
31	Curing Period (Days)	— 2	—	—	—

Surface mix was placed 1 months after the Binder mix
 Road was open to traffic approximately 3 months after laying
 the surface mix.



DATE 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA				* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [5 9] - 0		
*1.	DATE PAVING OPERATIONS BEGAN (Month-Day-Year)			[1 0-08-96]		
*2.	DATE PAVING OPERATIONS COMPLETED (Month-Day-Year)			[1 0-08-96]		
*3.	LAYER NUMBER			[5]		
*4.	MIXING TEMPERATURE (°F)			[310.]		
5.	LAYDOWN TEMPERATURES (°F)					
	Mean.....	[285]	Number of Tests	[1]		
	Minimum.....	[285]	Maximum.....	[285]		
	Standard Deviation...	[20]				
ROLLER DATA						
	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)
6	A	Steel-Whl Tandem	---	---	---	---
7	B	Steel-Whl Tandem	---	---	---	---
8	C	Steel-Whl Tandem	---	---	---	---
9	D	Steel-Whl Tandem	---	---	---	---
10	E	Pneumatic-Tired	---	---	---	---
11	F	Pneumatic-Tired	---	---	---	---
12	G	Pneumatic-Tired	---	---	---	---
13	H	Pneumatic-Tired	---	---	---	---
14	I	Single-Drum Vibr	---	---	---	---
15	J	Single-Drum Vibr	---	---	---	---
16	K	Single-Drum Vibr	---	---	---	---
17	L	Single-Drum Vibr	---	---	---	---
18	M	Double-Drum Vibr	118	---	2000	027
19	N	Double-Drum Vibr	---	---	---	---
20	O	Double-Drum Vibr.	---	---	---	---
21	P	Double-Drum Vibr	---	---	---	---
22	Q	Other	Combination steel (Steel) drum and rubber tires			
	COMPACTION DATA		First Lift	Second Lift	Third Lift	Fourth Lift
23	BREAKDOWN		M	—	—	—
24	Roller Code (A-Q) Coverages		—4	—	—	—
25	INTERMEDIATE		—	—	—	—
26	Roller Code (A-Q) Coverages		—	—	—	—
27	FINAL		Q	—	—	—
28	Roller Code (A-Q) Coverages		—2	—	—	—
29	Air Temperature (°F)		—65	—	—	—
30	Compacted Thickness (in)		—40	—	—	—
31	Curing Period (Days)		30	—	—	—

Surface mix was placed 1 month after the binder mix.
 Road was open to traffic approximately 3 months after laying the surface mix.

 BRE

Date 3-7-77.

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [O S] * SPS PROJECT CODE [2 9] * TEST SECTION NO [6 9] 5701
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*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 1 - 1 9 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 1 - 1 9 - 9 6]
 *3. LAYER NUMBER [6]
 *4. MIXING TEMPERATURE (°F) [3 1 0]
 5. LAYDOWN TEMPERATURES (°F)
 Mean..... [2 8 5.] Number of Tests [1]
 Minimum..... [2 8 5.] Maximum.... [2 8 5.]
 Standard Deviation... [2.0]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mph)
6	A	Steel-Whl Tandem	---	---	---	---	---
7	B	Steel-Whl Tandem	---	---	---	---	---
8	C	Steel-Whl Tandem	---	---	---	---	---
9	D	Steel-Whl Tandem	---	---	---	---	---
10	E	Pneumatic-Tired	---	---	---	---	---
11	F	Pneumatic-Tired	---	---	---	---	---
12	G	Pneumatic-Tired	---	---	---	---	---
13	H	Pneumatic-Tired	---	---	---	---	---
14	I	Single-Drum Vibr.	---	---	---	---	---
15	J	Single-Drum Vibr.	---	---	---	---	---
16	K	Single-Drum Vibr.	---	---	---	---	---
17	L	Single-Drum Vibr.	---	---	---	---	---
18	M	Double-Drum Vibr.	7 1 8	---	3 0 0 0	0 2 7	---
19	N	Double-Drum Vibr.	---	---	---	---	---
20	O	Double-Drum Vibr.	---	---	---	---	---
21	P	Double-Drum Vibr.	---	---	---	---	---
22	Q	Other	Combination steel (static) drum And Rubber Tires				
		COMPACTATION DATA	First Lift	Second Lift	Third Lift	Fourth Lift	
23		BREAKDOWN Roller Code (A-Q)	M	—	—	—	—
24		Coverages	— 4 ·	—	—	—	—
25		INTERMEDIATE Roller Code (A-Q)	—	—	—	—	—
26		Coverages	—	—	—	—	—
27		FINAL Roller Code (A-Q)	Q	—	—	—	—
28		Coverages	— 2	—	—	—	—
29		Air Temperature (°F)	— 6 5 ·	—	—	—	—
30		Compacted Thickness (in)	— 2 0 ·	—	—	—	—
31		Curing Period (Days)	— 2 0 ·	—	—	—	—

Surface mix was placed 1 months after the Binder mix
 Road was open to traffic approximately 3 months after laying
 the surface mix.

 BRE

DATE 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 14 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [5 1]
--	--	---

1. NUCLEAR DENSITY MEASUREMENTS

N/A

LAYER TYPE	Surface Course	Surface Friction Layer
Measurement Method (A, B, C) ¹	A	—
Number of Measurements	12	— —
Average (pcf)	1286	— — . —
Maximum (pcf)	1324	— — . —
Minimum (pcf)	1220	— — . —
Standard Deviation (pcf)	— 28	— — . —
Layer Number	— 6	— —

(Wet Density)

¹Measurement Method Backscatter A Direct Transmission... B Air Gap.. C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE

Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER

#24

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER

[_____]

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION

6. PROFILOGRAPH MEASUREMENTS

KJ LAWProfilograph Type California... 1 Rainhart... 2 Other ... 3 (3)Profile Index (in/mile) [_____]Interpretation Method Manual. 1 Mechanical.. 2 Computer .. 3 (3)Height of Blanking Band (in) [_____]Cutoff Height (in) [_____]7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) (NO)Z 7/10 . . . RRFDATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS			* STATE CODE [O 5] * SPS PROJECT CODE [O 9] * TEST SECTION NO. [E 2] 5401
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LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
2-0 0	— 0 — 3 6 — 7 2 — 1 0 8 — 1 4 4	— — — — — — — — — —	— 7 0 — 7 7 — 8 2 — 8 2 — 8 2	— — — — — — — — — —
2-5 0	— 0 — 3 6 — 7 2 — 1 0 8 — 1 4 4	— — — — — — — — — —	— 6 7 — 7 0 — 7 2 — 7 6 — 8 0	— — — — — — — — — —
1-0 0	— 0 — 3 6 — 7 2 — 1 0 8 — 1 4 4	— — — — — — — — — —	— 5 8 — 6 5 — 6 6 — 7 0 — 7 2	— — — — — — — — — —
1-5 0	— 0 — 3 6 — 7 2 — 1 0 8 — 1 4 4	— — — — — — — — — —	— 6 5 — 6 8 — 6 9 — 7 6 — 7 4	— — — — — — — — — —
2-0 0	— 0 — 3 6 — 7 2 — 1 0 8 — 1 4 4	— — — — — — — — — —	— 6 6 — 6 7 — 7 0 — 7 4 — 7 4	— — — — — — — — — —
2-5 0	— 0 — 3 6 — 7 2 — 1 0 8 — 1 4 4	— — — — — — — — — —	— 6 2 — 6 6 — 6 9 — 7 4 — 7 6	— — — — — — — — — —
3-0 0	— 0 — 3 6 — 7 2 — 1 0 8 — 1 4 4	— — — — — — — — — —	— 6 5 — 6 9 — 7 1 — 7 6 — 8 0	— — — — — — — — — —
LAYER NUMBER ¹	— —	— —	0 6	— —

¹ from Sheet 4

~~7/10~~

BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS			* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [B 7]
--	--	--	---

LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
3+5 0	- 0 - 3 6 - 7 2 - 7 8 - 7 4 4	- - - - - - - - - - - - - - -	- 6 9 - 7 0 - 7 1 - 7 7 - 8 0	- - - - - - - - - - - - - - -
4+0 0	- 0 - 3 6 - 7 2 - 7 8 - 7 4 4	- - - - - - - - - - - - - - -	- 6 6 - 7 0 - 7 5 - 8 0 - 8 3	- - - - - - - - - - - - - - -
4+5 0	- 0 - 3 6 - 7 2 - 7 8 - 7 4 4	- - - - - - - - - - - - - - -	- 6 5 - 6 8 - 7 2 - 7 7 - 8 1	- - - - - - - - - - - - - - -
5+0 0	- 0 - 3 6 - 7 2 - 7 8 - 7 4 4	- - - - - - - - - - - - - - -	- 6 6 - 7 0 - 7 1 - 7 2 - 8 1	- - - - - - - - - - - - - - -
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
LAYER NUMBER:	-----	-----	0 6	-----

from Sheet 4

Z. H. J. BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 16 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [9 9] [5 9] o,
---	--	----------------------------------

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

Construction

2 vibratory passes then 2 static passes w/L
Hypac C766B v.braroller
then 2 passes with the pneumatic

A pass is considered up+back. ↑↓

Used a LeeBoy 400 (min. roller) on shoulders

 RRE

DATE 3-10-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 20 PRE-OVERLAY SURFACE PREPARATION SKETCH	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [1 1]
--	---

No sketch available

PREPARED Tom H. Hansen EMPLOYER BRE DATE 3-10-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 24 ASPHALT PATCHING OF PCC PAVEMENTS	* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [5 7] o,
---	--

1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) []
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) []
3. PRIMARY DISTRESS OCCURPENCE PATCHED (code from Table A.22)
Other (Specify) _____ []
4. SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____ []
5. SUMMARY OF PATCHING NUMBER TOTAL AREA (SQ. ft)

Surface Only	[]	[]
Surface and partial base replacement	[]	[]
Full depth	[]	[]
6. METHOD USED TO DETERMINE LOCATION AND SIZES OF PATCHES []

Deflection.... 1	Coring. 2	Visual... 3	Other.... 4
(specify) _____			
7. METHOD USED TO FORM PATCH BOUNDARIES []

None ... 1	Saw Cut... 2	Air Hammer . . 3	Cold Milling . . 4
Other .. 5 (Specify) _____			
8. COMPACTION EQUIPMENT []

None .. . 1	Pneumatic roller . 2	Vibratory Plate Compactor 3	[]
Vibratory Roller 4	Steel Wheel Roller 5	Truck Tire. 6	[]
Hand Tools.. . 7	Other 8	(Specify) _____	[]
9. PATCH MATERIAL []

Hot Mix Asphalt Concrete 1	Plant Mix with Cutback Asphalt, Cold Laid 2
Plant Mix with Emulsified Asphalt,Cold Laid 3	Road Mix with Cutback Asphalt. 4
Road Mix with Emulsified Asphalt 5	Portland Cement Concrete. 6
(Specify) _____ 7	
10. MINIMUM TIME FROM MATERIAL PLACEMENT TO OPENING TO TRAFFIC (Hrs) []
11. MAXIMUM MATERIAL TEMPERATURE FOR TRAFFIC OPENING (if used) (°F) []
12. AIR TEMPERATURE DURING PLACEMENT OPERATIONS

High Temperature (°F)	[]
Low Temperature (°F)	[]
13. PREDOMINATE ROAD SURFACE MOISTURE CONDITION DURING PLACEMENT OPERATIONS []

Dry..... 1	Moist . . 2	Wet... . 3
------------	-------------	------------

No Patching - All Rubble Lized

PREPARED Tom W. Hansen EMPLOYER BRE DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 25		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		[05] [09] [E9]
1	DATE PATCHING OPERATIONS BEGAN (Month-Day-Year)	[]
2	DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year)	[]
3.	PRIMARY DISTRESS OCCURRENCE PATCHED (code from Table A.22) Other (Specify) _____	[]
4	SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22) Other (Specify) _____	[]
5	PATCHES Total Square (ft ²) _____ Number _____ Average Depth, (inch) _____	[] [] []
6.	METHOD USED FOR PATCH BOUNDARY DETERMINATION Visual. 1 Ball Peen Hammer, Steel Rod, Chain or Equivalent.. 2 Delam-Tech. 3 Other (Specify) 4 _____	[]
7	METHOD USED TO CUT BOUNDARIES Diamond Blade Saw . 1 Carbide Blade Saw 2 None. 3 Air Hammer 4 Cold Milling 5 Other (Specify) 6 _____	[]
8	METHOD USED TO BREAK UP AND/OR REMOVE DETERIORATED CONCRETE Jackhammer 1 Cold Milling 2 Other (Specify) 3 _____	[]
9.	METHOD FOR FINAL CLEANING OF PATCH AREA None . 1 Sandblasting 2 Waterblasting . 3 Other (Specify) 4 _____	[]

No Patching - All Rubblized

... ~~Z~~ 118.

2023-03-22 BCF

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 26
PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES, CONTINUED

- | | | | |
|--|-----------------------|-------------------|--|
| 1. PATCH MATERIAL USED | | | |
| Portland Cement Concrete .. 1 | Polymer Concrete... 2 | Epoxy Mortar... 3 | |
| Other (Specify) ... 5 | | | |
| 2. BONDING AGENT | | | |
| None... 1 | Cement Grout... 2 | Epoxy Resin... 3 | |
| Other (Specify) .. 4 | | | |
| 3. MIXTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.) | | | |
| Coarse Aggregate | | | |
| Fine Aggregate | | | |
| Cement | | | |
| Water | | | |
| 4. MAXIMUM SIZE OF COARSE AGGREGATE, (inch) | | | |
| 5. CEMENT TYPE USED
(See Cement Type Codes, Tables A 11) | | | |
| 6. AIR CONTENT, PERCENT BY VOLUME | | | |
| | Mean | [_____] . | |
| | Range | Min [_____] . | |
| | | Max [_____] . | |
| 7. ADMIXTURES
(See Cement Additive Codes, Table A 12) | | | |
| 8. SLUMP, (inch) | | | |
| | Mean | [_____] . | |
| | Range. | Min [_____] . | |
| | | Max [_____] . | |
| COMPRESSIVE STRENGTH OF PATCH MATERIAL, (psi) | | | |
| Curing Time Days | | | |
| If Unavailable, and Other Strength Test Conducted,
Alternate Test | [_____] | | |
| Type of Loading | [_____] | | |
| Age, Days | [_____] . | | |
| Strength, (psi) | [_____] . | | |

No Patching - All Rubbleclized

Z 110 RRF

DATE 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 27 PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <u>0 5</u> * SPS PROJECT CODE <u>0 9</u> * TEST SECTION NO. <u>5 2</u>
---	---

1. CURING METHOD

None.. 1 Membrane Curing Compound. . 2 Burlap Curing Blankets . 3
 Waterproof Paper Blankets.. 4 White Polyethylene Sheeting. . 5
 Burlap-Polyethylene Blankets... 6 Insulating Layers... 7
 Cotton Mat Curing. 8 Hay... 9
 Other (Specify) . 10

METHOD 1 []
 METHOD 2 []

2. APPROXIMATE TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS

[]

3 AMBIENT CONDITIONS AT TIME OF PATCHING

LOW []

Air Temperature °F

Surface Moisture - Dry = 1, Wet = 2

[]

4. METHOD OF CONSOLIDATING MATERIALS

2 Troweling... 3

Vibrators... 1 Vibrating Screeeds
 Rodding/Tamping... 4 Rolling.. 5
 Other (Specify) .. 6

[]

5 FINISHING METHOD

Machine-Troweling... 3

Screeeding . 1 Hand-Troweling... 2
 Other (Specify) .. 4

[]

6 JOINT FORMING METHOD

[]

Shoulder

[]

Transverse

[]

Longitudinal

None 1 Polyethylene Strip Insert 2 Styrofoam Insert 3
 Fiberboard Insert. 4 Sawing. 5 Forms . 6
 Other (Specify) 7

[]

No Patching - All Rubbelized

Z 11/1

RPF

-1-- 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 28 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[05] [09] [59]

1. DATE JOINT SEALANT OPERATIONS BEGAN (Month-Day-Year) _____
2. DATE JOINT SEALANT OPERATIONS COMPLETED (Month-Day-Year) _____
3. METHOD OF REMOVING OLD SEALANT
Not Removed... 1 Joint Plow - V-Shaped... 2 Joint Plow - Rectangular... 3
High Pressure Water Blasting 4 Diamond Blade Saw 5
Carbide Blade Saw 6 Pull-Out of Old Compression Sealant.. 7
Not Previously Sealed... 8
Other (Specify) ... 9 _____
4. NEW SEALANT RESERVOIR DIMENSIONS, (inches)
Width _____
Depth (From Top of Slab to Top of Backer Rod or Tape) _____
5. BOND BREAKER UNDER SEALANT
None . 1 Nonreactive Adhesive Backed Tape . 2 Backer Rod . 3
Other (Specify) ... 4 _____
6. WERE JOINT SIDEWALLS REFACED?
No . 1 Yes - One-Blade . 2 Yes - Two-Blade 3
Other (Specify) ... 4 _____
7. CLEANING OF SIDEWALLS
None .. 1 Air Blast. 2 Sand Blast . 3 Water Blast . 4
Other (Specify) . . 5 _____

N/A

100

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 29 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>5</u> <u>9</u>]

1. TYPE OF CONTRACTION JOINT SEALANT
(AASHTO OR ASTM SPECIFICATIONS) []

- D1850 (ASTM) Concrete Joint Sealer, Cold-Application Type . 1
D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type . 2
D3406 (ASTM) - M282 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
for PCC Pavements. . 3
D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
Asphalt Pavements.. 4
D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges 5
D2628 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
Pavements . 6
Other (Describe - if Silicone Material is Used Federal Spec. TT-S-001543A,
Georgia D O T. Spec 833 06 or Equal Applies 7

Manufacturer Information on Type of Pressure Relief Joint Sealant

Manufacturer Name []
Manufacturer Sealant Name []

2. AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
BELOW PAVEMENT SURFACE, (inch) []

3. ARE EXPANSION JOINTS SEALED DIFFERENTLY THAN CONTRACTION JOINTS? []
Yes. 1 No. 2

If Yes, Enter the code from Item 1, or describe below []

Other []

4. TOTAL LINEAR FEET OF JOINTS SEALED
Transverse Joints []

Longitudinal Joints []

NOTE IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 26 AND 27 FOR
EACH RECORDING THEIR LENGTHS IN ITEM NO. -

N/A

Z H

RDF

--- 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 30 CRACK SEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>3</u> <u>9</u>]
--	---	---

1. DATE CRACK SEALING OPERATIONS BEGAN (Month-Day-Year) [____]
2. DATE CRACK SEALING OPERATIONS COMPLETED (Month-Day-Year) [____]
3. NEW SEALANT RESERVOIR DIMENSIONS, Inches If Used
Width [____]
Depth (From Top of Slab to Top of Backer Rod or Tape) [____]
4. BOND BREAKER UNDER SEALANT, If Used
None... 1 Nonreactive Adhesive Backed Tape... 2 Backer Rod... 3
Other (Specify)... 4
5. CLEANING OF CRACKS
None... 1 Routing... 2 Air Blast... 3 Steel Wire Brush... 4
Brooming... 5 Other (Specify)... 6

No Crack Sealing - Rubbelization then Overlay

Z 7/11

- - - - RRF

- - - - Z-10-01

April 1991 (Heading revised October 1992)

SPS-9A-CONSTRUCTION DATA SHEET 31 CRACK SEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [<u>O S</u>] * SPS PROJECT CODE [<u>O 7</u>] * TEST SECTION NO [<u>Z 7</u>]
---	--

1. TYPE OF SEALANT
(AASHTO OR ASTM SPECIFICATIONS) []

- D1850 (ASTM) Concrete Joint Sealer, Cold-Application Type.. 1
D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type 2
D3406 (ASTM) - M282 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
for PCC Pavements... 3
D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
Asphalt Pavements. 4
D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges 5
D2628 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
Pavements... 6
Other (Describe - if Silicone Material is Used Federal Spec TT-S-001543A,
Georgia D.O.T Spec 833.06, or Equal Applies . 7

Manufacturer Information on Type of Pressure Relief Crack Sealant

Manufacturer Name [_____]
Manufacturer Sealant Name [_____]

2 AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
Below Pavement Surface, (inch) [____]

3. TOTAL LINEAR FEET OF CRACKS SEALED [____ . ____]

NOTE IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 28 AND 29 FOR
EACH RECORDING THEIR LENGTHS IN ITEM NO 3

No Sealing - rubberization then overlay

LW . - - - - RRF

DATE 3-10-97.

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 32 DIAMOND GRINDING FOR PORTLAND CEMENT CONCRETE PAVEMENT SURFACES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>3</u> <u>4</u>]
1. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year)	[<u> </u> <u> </u> <u> </u>]	
2. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year)	[<u> </u> <u> </u> <u> </u>]	
3. REASON FOR GRINDING	[<u> </u>]	
Elimination of Faulting .. 1	Elimination of Slab Warping.. 2	
Improve Skid Resistance .. 3		
Restoration of Transverse Drainage Slope .. 4		
Other (Specify) .. 5		
4. AVERAGE DEPTH OF CUT, (inch)	[<u> </u> <u> </u>]	
5. CUTTING HEAD WIDTH, (inch)	[<u> </u> <u> </u> <u> </u>]	
6. AVERAGE GROOVE WIDTH, (inch)	[<u> </u> . <u> </u>]	
7. AVERAGE SPACING BETWEEN BLADES, (inch)	[<u> </u> . <u> </u>]	

No Grinding - Rubble Traction then Overlay

Z. H. J. RRE DATE 3-10-77

SPS-9A CONSTRUCTION DATA SHEET 33 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
		[0 5] [0 9] [5 9]
1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) [____-____-____]		
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) [____-____-____]		
3. PRIMARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB (See Table A 22 for Type Codes) Other (Specify) _____		
4. SECONDARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB (See Table A 22 for Type Codes) Other (Specify) _____		
5. PATCHES		NUMBER
SLAB ONLY		[____]
SLAB AND BASE		[____]
6. PATCH MATERIAL USED Portland Cement Concrete 1 Polymer Concrete... 2 Epoxy Mortar. . 3 Other (Specify). . 4		
7. SLABS REPLACED		NUMBER
SLAB ONLY		[____]
SLAB AND BASE		[____]
8. METHOD FOR PATCH BOUNDARY DETERMINATION Visual 1 Coring . 2 Deflection.. 3 State Standard or Specification. . 4 Other (Specify) .. 5		
9. CUTTING INSTRUMENT Diamond Blade Saw 1 Carbide Blade Saw 2 Wheel Saw. . 3 Air Hammer 4 Other (Specify) .. 5		

Rubbleized then Overlay

ZTA

- - - - RAE

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 34 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
		[05] [29] [57]

1. SECURING LOAD TRANSFER DEVICES

None... 1	Grout Filler .. 2	Epoxy filler. . 3	[]
Other.. 4			<u> </u>
2. REINFORCING STEEL PLACED IN PATCH

No... 1	Yes 2	[]
---------	-------	-----
3. REBAR NUMBER

[]	[]
---------	---------
4. BAR LENGTHS, (inch)

[]	[]
---------	---------
5. BAR SPACING, (inch)

[]	[]
---------	---------
6. REBAR NUMBER

[]	[]
---------	---------
7. BAR LENGTHS, (inch)

[]	[]
---------	---------
8. BAR SPACING, (inch)

[]	[]
---------	---------
9. DOWEL COATINGS

None... 1	Paint and/or Grease . 2	Plastic .. 3	[]
Monel .. 4	Stainless Steel. 5	Epoxy . 6	<u> </u>
Other (Specify) . 7			<u> </u>
10. NUMBER OF SAW CUTS PER PATCH (If Sawn)

[]	[]
---------	---------
11. DEPTH OF TYPICAL BOUNDARY SAW CUT, (inch)

[]	[]
---------	---------
12. CONCRETE BREAKUP

None.. 1	Pneumatic Air Hammer... 2	Gravity Drop Hammer. 3	[]
Sawing . 4	<u> </u>		<u> </u>
Other (Specify) .. 5			<u> </u>
13. REMOVAL OF CONCRETE

Concrete Breakup and Cleanout 1	Lift Out Intact Slab Section 2	[]
Other (Specify) . 3		<u> </u>

N/A

Z 7/0

-- -- -- RAE

01-- 3-10-97

SPS-3A CONSTRUCTION DATA SHEET 35 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>5</u> <u>9</u>]
---	---	---

1. METHOD OF REINFORCING STEEL PLACEMENT
Chairs... 1 Between Layers of Concrete 2 []
2. MIXTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.)
Coarse Aggregate []
Fine Aggregate []
Cement []
Water []
3. CEMENT TYPE USED
(See Type Codes, Tables A.11) []
4. AIR CONTENT, PERCENT BY VOLUME
Mean []
Range [] to []
5. ADMIXTURES
(See Cement Additive Codes, Table A.2) []
6. SLUMP, (inch)
Mean []
Range [] to []
7. FLEXURAL STRENGTH (MODULUS OF RUPTURE), psi
(Based on 3rd Point Loading) Curing Time, Days
If Unavailable, and Other Strength Test Conducted,
Enter Alternate Test []
Type of Loading []
Age, Days []. Strength, psi []
8. AMBIENT CONDITIONS AT TIME OF PATCHING
Air Temperature °F []
Surface Moisture - Dry = 1, Wet = 2 HIGH []
9. MAXIMUM SIZE OF COARSE AGGREGATE, (inch) []
10. CONSOLIDATION OF MATERIALS
Internal Vibrators 1 Vibrating Screeds 2 Troweling 3 []
Rolling . 4 Tamping 5
Other (Specify) . 6 []
11. FINISHING
Screeing . 1 Hand-Troweling . 2 Machine-Troweling. 3 []
Other (Specify) . 4 []

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DPC

---- R-10-97

April 1991 (Heading revised October 1992)

SPS-9A- CONSTRUCTION DATA SHEET 36 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO [2 1]
--	--	--

- | | | | |
|--|--------------------------------------|------------|--------------|
| 1. JOINT FORMING METHOD | SHOULDER | TRANSVERSE | LONGITUDINAL |
| | [__] | [__] | [__] |
| None... 1 Polyethylene Strip Insert .. 2 Styrofoam Insert.. 3
Fiberboard Insert.. 4 Sawing... 5 Forms 6
Other (Specify) 7 _____ | | | |
| 2. WAS BOND BREAKER USED BETWEEN ADJACENT LANES? | [__] | | |
| Yes... 1 No. . 2 | | | |
| 3. CURING METHOD | METHOD 1 [__ __]
METHOD 2 [__ __] | | |
| None... 1 Membrane Curing Compound. . 2 Burlap Curing Blankets. 3
Waterproof Paper Blankets... 4 White Polyethylene Sheeting... 5
Burlap-Polyethylene Blankets... 6 Insulating Layers... 7
Cotton Mat Curing... 8 Hay... 9
Other (Specify)... 10 _____ | | | |
| 4. APPROXIMATE TYPICAL TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS | [__ __] | | |
| 5. TYPE OF TRANSVERSE JOINTS IN PATCHES
OR SLABS | [__ __] | | |
| None. 1 All Expansion Joints. . 2 All Contraction Joints 3
Mixture of Expansion and Contraction Joints. 4 | | | |
| 6. WERE OLD JOINTS MATCHED? | [__ __] | | |
| Yes .. 1 No. . 2 | | | |

N/A

----- *Z* Z/H

- - - - - RRE

DATE 3-10-87

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 37 LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		* STATE CODE [O 5] * SPS PROJECT CODE [O 9] * TEST SECTION NO. [3 9]
--	--	---

1. DATE LOAD TRANSFER RESTORATION BEGAN (Month-Day-Year) [____-____-____]
2. DATE LOAD TRANSFER RESTORATION COMPLETED (Month-Day-Year) [____-____-____]
3. NUMBER OF JOINTS IN TEST SECTION [____]
4. NUMBER OF JOINT LOAD TRANSFER RESTORATION LOCATIONS [____]
5. NUMBER OF DEVICES PER JOINT [____]
6. LOCATION OF DOWELS OR SHEAR DEVICES (inch)

1st	[____]
2nd	[____]
3rd	[____]
4th	[____]
(DISTANCE FROM THE OUTER LANE EDGE TO THE CENTER OF EACH DEVICE)	[____]
5th	[____]
6th	[____]
7th	[____]
8th	[____]
9th	[____]
10th	[____]
11th	[____]
12th	[____]
13th	[____]
14th	[____]
7. DIAMETER OF RETROFIT DOWEL BARS, (inch) [____]
8. MATERIAL USED TO BACKFILL SLOT/CORE HOLE

Cement Based Grout... 1	Polymer Concrete . 2
Epoxy Resin Grout. 3	
Other (Specify) . . 4	
9. BONDING AGENT USED BETWEEN EXISTING PCC AND BACKFILL MATERIAL

None.. 1	Epoxy . 2	Cement/Water 3
Other (Specify) .. 4		

N/A

2/18

--- RWF

-1-- 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 38

LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES, CONTINUED

1. LOAD TRANSFER EFFICIENCY BEFORE AND AFTER RESTORATION

2. DATE OF LOAD TRANSFER EFFICIENCY TESTS
BEFORE RESTORATION (Month-Day-Year)
AFTER RESTORATION (Month-Day-Year)

{ - - - - }

N/A

- 71 A

~~RECORDED~~ BRE

3-10- 97

SPS-9A CONSTRUCTION DATA SHEET 39 UNDERSEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		* STATE CODE [0 5] * SPS PROJECT CODE [2 7] * TEST SECTION NO. [5 9] 01
1. DATE UNDERSEALING BEGAN (Month-Day-Year)	[- - - -]	
2. DATE UNDERSEALING COMPLETED (Month-Day-Year)	[- - - -]	
3. TYPE OF MIXTURE USED IN SUBSEALING Cement-Loam Top Soil Slurry ... 1 Cement-Limestone Dust Slurry ... 2 Cement-Pozzolan Slurry ... 3 Cement-Fine Sand Slurry ... 4 Other (Specify) ... 5	[]	
MIX DESIGN OF PORTLAND CEMENT GROUT (Items 4 to 8.)		
4. CEMENT TYPE (SEE CEMENT TYPE CODES, TABLE A.11)	[- -]	
5. CEMENT TO SAND RATIO (BY WEIGHT)	[- -]	
6. WATER/CEMENT RATIO (BY WEIGHT)	[- - -]	
7. ADDITIVE TYPE (SEE TABLE A.12)	[- -]	
8. AMOUNT OF ADDITIVE (BY PERCENT OF CEMENT WEIGHT)	[- - -]	
9. FLUIDITY OF PORTLAND CEMENT GROUT (Flow Cone Method ASTM C939) (SEC)	[- - -]	
10. CUBE COMPRESSIVE STRENGTH OF PORTLAND CEMENT GROUT, (PSI)	[- - - -]	
11. CURING PERIOD FOR PORTLAND CEMENT GROUT (DAYS)	[- -]	
12. DETERMINATION OF AREA TO BE UNDERSEALED Blanket Coverage ... 1 Deflection Data ... 2 Visual Signs of Pumping ... 3 Other (Specify) ... 4	[- -]	

N/A

Z 11/

RPF

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 40 UNDERSEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		* STATE CODE [O S] * SPS PROJECT CODE [O 9] * TEST SECTION NO [S 1]
--	--	--

1. DEPTH OF UNDERSEALING HOLE FROM TOP OF SLAB (inch) [_____] /
2. MAXIMUM ALLOWABLE PUMPING PRESSURE
(Gauge at Plant) (psi) [_____] /
3. MAXIMUM SURGE PRESSURE (psi) [_____] /
4. SLABS IN TEST SECTION (JOINTED CONCRETE PAVEMENTS ONLY)
Total Number [_____] Number Undersealed [_____] /
5. AVERAGE NUMBER OF HOLES PER SLAB UNDERSEALED
(JCP Only) [_____] /
6. TYPICAL NUMBER OF UNDERSEALING HOLES NEAR JOINT OR CRACK
(JCP Only) [_____] /
7. AVERAGE VOLUME OF MATERIAL PUMPED PER HOLE
(Cubic Feet) [_____] /
8. MONITORING OF LIFT
Deflection Device (e.g., Benkelman Beam)... 1 Maximum Pumping Time... 2
Appearance of Material in Adjacent Joints or Cracks... 3
Other (Specify) ... 4 [_____] /
9. TYPICAL TIME BETWEEN UNDERSEALING AND REOPENING TO TRAFFIC (HOURS) [_____] /
11. WERE DEFLECTION MEASUREMENTS TAKEN BEFORE AND AFTER UNDERSEALING?
Yes... 1 No... 2
BEFORE UNDERSEALING [_____] /
AFTER UNDERSEALING [_____] /
12. TIME OF DAY WHEN DEFLECTION MEASUREMENTS WERE CONDUCTED (HOURS)
STARTING TIME ENDING TIME
BEFORE UNDERSEALING [_____] [_____] /
AFTER UNDERSEALING [_____] [_____] /

N/A

L N/A

RRE

DATE 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 41 SUBDRAINAGE RETROFIT FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>2</u> <u>9</u>] * TEST SECTION NO. [<u>2</u> <u>1</u>] <u>0</u>
--	--	--

1. DATE SUBDRAINAGE PLACEMENT BEGAN (Month-Day-Year) [1 0 0 1 9 6]
2. DATE SUBDRAINAGE PLACEMENT COMPLETED (Month-Day-Year) [1 0 0 9 9 6]
3. TYPE OF DRAINAGE PIPE [6]
 Clay Tile . 1 Concrete Tile . 2 Vitrified Clay .. 3
 Perforated Plastic Bituminous Fiber . 4 Perforated Corrugated Metal 5
 Corrugated Plastic Tubing .. 6 Drainage Mat. . 7
 Other (Specify). 8 _____
4. DIAMETER OF PIPE (inch) [4 0]
5. DEPTH OF PIPE BELOW TOP OF PAVEMENT SURFACE (inch) [2 4 0]
6. HORIZONTAL PLACEMENT OF PIPE FROM OUTER EDGE OF PAVEMENT (inch) [9 0]
7. TYPE OF PRIMARY FILTER USED [3]
 Graded Aggregate. . 1 Uniformly Graded Aggregate (One Size) .. 2
 Woven Fabric.. 3 Non-Woven Fabric... 4 Porous PCC. . 5
 Porous Bituminous Concrete... 6
 Other (Specify). 7 _____
8. MAXIMUM PARTICLE SIZE C" PRIMARY FILTER MATERIAL (inch) [1 5]
9. GRADATION OF PRIMARY FILTER MATERIAL
 % Passing #4 Sieve [] % Passing #40 Sieve []
 % Passing #10 Sieve [] % Passing #100 Sieve []
10. PERMEABILITY OF PRIMARY FILTER MATERIAL (feet/day) []
11. TYPE AND LOCATION OF SECONDARY FILTER MATERIAL []
 Fabric Encapsulating the Primary Filter Material... 1
 Fabric Encapsulating the Drainage Pipe... 2
 Other (Specify) 3 _____
12. AVERAGE OUTLET INTERVAL (ft) [2 5 0]
13. PRIMARY PURPOSE OF SUBDRAINAGE INSTALLATION [1]
 Remove Free Water From Pavement Layers... 1
 Cut Off Side-Hill/Through Hill Seepage . 2
 Lower Water Table 3
 Other (Specify) 4 _____


DATE 3-10-87

August 1995

SPS CONSTRUCTION DATA - SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
	[D 5] [O 9] [O 2]

*1. LANE WIDTH (ft)	[1 2]	
2. MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)	[1]	
*3. SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section... 1 Intermittent... 2 None.. 3	[1]	
*4. SUBSURFACE DRAINAGE TYPE No Subsurface Drainage . 1 Longitudinal Drains. 2 Transverse Drains. . 3 Drainage Blanket.. 4 Well System.. 5 Drainage Blanket with Longitudinal Drains 6 Other (Specify)... 7	[2]	
SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5 SURFACE TYPE Turf . 1 Granular.... 2 Asphalt Concrete . 3 Concrete . 4 Surface Treatment. 5 Other (Specify). 6	[3]	[3]
*6. TOTAL WIDTH (ft)	[0 6]	[1 0]
*7 PAVED WIDTH (ft)	[0 4]	[1 2]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 1]	[2 1]
9. SURFACE THICKNESS (inch)	[5 5]	[5 5]
10. SHOULDER BASE THICKNESS (inch)	[5 0]	[5 0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (inch)	[4 0]	
12. SPACING OF LATERALS (ft)	[2 5 0]	
13. TYPE OF PAVEMENT (See Table A.4 of the SHRP Data Collection Guide)	[2 8]	

ZHD ----- RDF

Date 2-28-97

ENLINED MAY 28 1997 A.S

SFS-9 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [05] * SPS PROJECT CODE [09] * TEST SECTION NO [02]
--	--

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (in)			
			AVERAGE	*MINIMUM	*MAXIMUM	*STD DEV
1	SUBGRADE (7)	(53)	11.5	11.1	11.9	0.2
2	(05)	(27)	6.0	—	—	—
3	(03)	(04)	10.0	—	—	—
4	(04)	(01)	10.0	—	—	—
5	AM 04 (01)	(01)	4.0	—	—	—
6	(01)	(01)	2.0	—	—	—
7	(—)	(—)	—	—	—	—
8	(—)	(—)	—	—	—	—
9	(—)	(—)	—	—	—	—
10	(—)	(—)	—	—	—	—
11	(—)	(—)	—	—	—	—
12	(—)	(—)	—	—	—	—
13	(—)	(—)	—	—	—	—
14	(—)	(—)	—	—	—	—
15	(—)	(—)	—	—	—	—

* I have this info. for the Binder + Surface Combination attached to the original data sheets

5 DEPTH BELOW SURFACE TO "RIGID" LAYER (ft)
(Rock, Stone, Dense Shale)

>20' (—) END.

NOTES

- Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.
- Layer description codes
 Overlay01 Base Layer... .05 Porous Friction Course .09
 Seal/Tack Coat..... .02 Subbase Layer ..06 Surface Treatment10
 Original Surface... .03 Subgrade...07 Embankment (Fill).....11
 HMAc Layer (Subsurface) 04 Interlayer.08
- The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.
- Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARED Z.D. Munro EMPLOYER BRE DATE 5-27-97
9/24/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>05</u> <u>09</u> <u>02</u>]
---	--	---

*1. LAYER NUMBER (FROM SHEET 4) Level Up [4]

COMPOSITION OF COARSE AGGREGATE TYPE PERCENT

*2. $\frac{1}{4}'' + \frac{5}{8}''$ Crushed Stone . 1 Gravel 2 Crushed Gravel 3 [1] [61]

*3. Crushed Slag. . 4 Manufactured Lightweight... 5 [] []

*4. Other (Specify)... 6 [] []

COMPOSITION OF FINE AGGREGATE TYPE PERCENT

*5. Screen + Ind. Sand Natural Sand... 1 Crushed or Manufactured Sand [2] [39]

*6. (From Crushed Gravel or Stone)... 2 [] []

*7. Recycled Concrete. 3 Other... 4 [] []
(Specify)

*8. TYPE OF MINERAL FILLER [5]

Stone Dust. 1 Hydrated Lime 2 Portland Cement . 3

Fly Ash... 4 None . 5

Other (Specify). 6 []

BULK SPECIFIC GRAVITIES

See Calculations

*9. Coarse Aggregate (AASHTO T85 or ASTM C127) ON BACK [2608]

*10. Fine Aggregate (AASHTO T84 or ASTM C128) [2580]

*11. Mineral Filler (AASHTO T100 or ASTM D854) []

*12. Aggregate Combination (Calculated) []

13. Effective Specific Gravity of Aggregate Combination (Calculated) []

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14	Coarse	[<u> </u>]	[<u> </u>]
15	Coarse	[<u> </u>]	[<u> </u>]
16.	Coarse	[<u> </u>]	[<u> </u>]
17	Coarse and Fine - Combined	[<u> </u>]	[<u> </u>]
18	POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[<u> </u>]

Z/10

RDF

5-9-97
DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[25] [29] [22]
---	--	--	----------------------

*1. LAYER NUMBER (FROM SHEET 4)	Binder	[5]
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone . 1	Gravel... 2	Crushed Gravel. 3 [1] [1 6 1]
*3. Crushed Slag .. 4	Manufactured Lightweight . 5	[] [1 1 1]
*4. Other (Specify) .. 6		[] [1 1 1]
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand... 1	Crushed or Manufactured Sand	[2] [1 3 9]
*6. (From Crushed Gravel or Stone)... 2		[] [1 1 1]
*7. Recycled Concrete. 3	Other... 4	[] [1 1 1]
TYPE OF MINERAL FILLER		
Stone Dust. . 1	Hydrated Lime . 2	Portland Cement... 3
Fly Ash . 4	None .. 5	
Other (Specify)	6	
BULK SPECIFIC GRAVITIES		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)		[2.6 0 8]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)		[2.5 8 0]
*11. Mineral Filler (AASHTO T100 or ASTM D854)		[1 1 1]
*12. Aggregate Combination (Calculated)		[1 1 1]
13. Effective Specific Gravity of Aggregate Combination (Calculated)		[1 1 1]
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A 13)		
TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14. Coarse	[]	[1 1 1 1 1 1]
15. Coarse	[]	[1 1 1 1 1 1]
16. Coarse	[]	[1 1 1 1 1 1]
17. Coarse and Fine - Combined	[]	[1 1 1 1 1 1]
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[]

Z. D. Donner E. PLG. SP BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO. <div style="text-align: center;"> $\frac{2}{2}$ $\frac{5}{9}$ $\frac{2}{2}$ </div>
---	---

*1. LAYER NUMBER (FROM SHEET 4)	Surface (<u>6</u>)
COMPOSITION OF COARSE AGGREGATE	
*2. <u>5/3</u> Crushed Stone . 1 Gravel... 2 Crushed Gravel 3 (<u>1</u>)	TYPE (<u>43</u>)
*3. Crushed Slag.. 4 Manufactured Lightweight . 5 (<u> </u>)	PERCENT (<u> </u>)
*4. Other (Specify) ... 6 _____	(<u> </u>) (<u> </u> .)
COMPOSITION OF FINE AGGREGATE	
*5. Natural Sand... 1 Crushed or Manufactured Sand (<u>2</u>)	TYPE (<u>57</u>)
*6. (From Crushed Gravel or Stone) ... 2 (<u> </u>)	PERCENT (<u> </u>)
*7. Recycled Concrete. 3 Other .. 4 (<u> </u>)	(<u> </u>) (<u> </u> .)
TYPE OF MINERAL FILLER (<u>5</u>)	
Stone Dust 1 Hydrated Lime... 2 Portland Cement. 3	
Fly Ash . 4 None 5	
Other (Specify) 6 _____	
BULK SPECIFIC GRAVITIES	
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	(<u>2.628</u>)
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	(<u>2.584</u>)
*11. Mineral Filler (AASHTO T100 or ASTM D854)	(<u> </u> .)
*12. Aggregate Combination (Calculated)	(<u> </u> .)
13 Effective Specific Gravity of Aggregate Combination (Calculated)	(<u> </u> .)
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A 13)	
TYPE OF AGGREGATE	
14 Coarse	TYPE OF TEST (<u> </u>)
15 Coarse	RESULTS (<u> </u> .)
16 Coarse	(<u> </u> .)
17 Coarse and Fine - Combined	(<u> </u> .)
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)	(<u> </u>)

$$19. \frac{(0.35 \times 2.674) + (0.05 \times 2.603) + (0.17 \times 2.595)}{(0.35 + 0.05 + 0.17)} = 2.584$$

L. N. Denman, P.E., BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[0 5] [0 9] [2 2]

*1. LAYER NUMBER (FROM SHEET 4)	[4]	
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone .. 1 Gravel... 2 Crushed Gravel.	[1] [61]	
*3. Crushed Slag. . 4 Manufactured Lightweight... 5	[] [___]	
*4. Other (Specify) .. 6	[] [___]	
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand 1 Crushed or Manufactured Sand	[2] [37]	
*6. (From Crushed Gravel or Stone)... 2	[] [___]	
*7. Recycled Concrete .. 3 Other... 4 (Specify)	[] [___]	
*8. TYPE OF MINERAL FILLER		
Stone Dust... 1 Hydrated Lime... 2 Portland Cement . 3	[]	
Fly Ash. . 4 None .. 5	[]	
Other (Specify) .. 6	[]	
BULK SPECIFIC GRAVITIES.		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[2 60 8]	
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	[2 58 0]	
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[___]	
*12. Aggregate Combination (Calculated)	[___]	
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[___]	
14. Angularity	One Face	Two Faces
Coarse (% Fractured Faces)	[___]	[___]
Fine (% Voids)	[___]	[___]
15 Soundness	Test Type	Result
Coarse (Type of Test From A.13, % loss)	[0 3]	[___]
Fine (Type of Test From A.13, % loss)	[0 3]	[___]
16 Toughness of Coarse Aggregate (% loss LAR)	[0 1]	[___]
17 Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[0 9]	[___]
18 Clay Content (Sand Equivalent, ratio)	[___]	[___]
19 Thin, Elongated Particles (%)	[___]	[___]

Z.M.D. RRF

5-12-97
Date 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE [0 5] * SPS PROJECT CODE [2 7] * TEST SECTION NO. [2 2]
---	--

*1. LAYER NUMBER (FROM SHEET 4)	[5]	
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel... [1]
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[1]
*4. Other (Specify)... 6		[1]
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand... 1	Crushed or Manufactured Sand	[2]
*6. (From Crushed Gravel or Stone) ... 2		[1]
*7. Recycled Concrete.. 3	Other. 4	[1]
(Specify)		
*8. TYPE OF MINERAL FILLER	[5]	
Stone Dust .. 1	Hydrated Lime. . 2	Portland Cement.. 3
Fly Ash... 4	None .. 5	
Other (Specify)... 6		
BULK SPECIFIC GRAVITIES		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[2 6 0 8]	
*10. Fine Aggregate (AASHTO T84 or ASTM C129)	[2 5 8 0]	
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[____]	
*12. Aggregate Combination (Calculated)	[____]	
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[____]	
14. Angularity	One Face	Two Faces
Coarse (% Fractured Faces)	[____]	[____]
Fine (% Voids)		[____]
15. Soundness	Test Type	Result
Coarse (Type of Test From A.13, % loss)	[0 3]	[____]
Fine (Type of Test From A.13, % loss)	[0 3]	[____]
16. Toughness of Coarse Aggregate (% loss LAR)	[0 1]	[____]
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[0 9]	[____]
18. Clay Content (Sand Equivalent, ratio)	[____]	
19. Thin, Elongated Particles (%)	[____]	

Tom J. Dunn BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES		* STATE CODE [O S] * SPS PROJECT CODE [O 9] * TEST SECTION NO. [O 2]
---	--	---

*1. LAYER NUMBER (FROM SHEET 4)	(6)	
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel... 3
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[] []
*4. Other (Specify)... 6		[] []
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand... 1	Crushed or Manufactured Sand	[2] [] 5 7
*6. (From Crushed Gravel or Stone)... 2		[] []
*7. Recycled Concrete . 3	Other.. 4	[] []
(Specify) _____		
*8. TYPE OF MINERAL FILLER	(5)	
Stone Dust... 1	Hydrated Lime... 2	Portland Cement.. 3
Fly Ash . 4	None 5	
Other (Specify) 6		
BULK SPECIFIC GRAVITIES.		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[2 6 2 8]	
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	[2 5 8 4]	
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[]	
*12. Aggregate Combination (Calculated)	[]	
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[]	
14. Angularity	One Face	Two Faces
Coarse (% Fractured Faces)	[]	[]
Fine (% Voids)		[]
15. Soundness	Test Type	Result
Coarse (Type of Test From A.13, % loss)	[0 3]	[]
Fine (Type of Test From A.13, % loss)	[0 3]	[]
16. Toughness of Coarse Aggregate (% loss LAR)	[0 1]	[]
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[0 9]	[]
18. Clay Content (Sand Equivalent, ratio)		[]
19. Thin, Elongated Particles (%)		[]

J. H. Dauner BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>05</u> <u>09</u> <u>02</u>]
--	--	---

*1. LAYER NUMBER (FROM SHEET 4) Level Up [4]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16)
(IF OTHER, SPECIFY) P.G. 64-22 []

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [07]

4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1.033]

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [— .]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [— .]

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g, 5 sec.) [—]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15) TYPE QUANTITY (%)

8. MODIFIER #1 None [] [0]

9. MODIFIER #2
(IF OTHER, SPECIFY) [] [0]

10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [—]

11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [—]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°F (CM/MIN) [—]

13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
(200 g, 60 sec.) [—]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [—]

NOTE If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

J.J. Jansen RRE DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>2</u> <u>9</u>] [<u>0</u> <u>2</u>]
--	--	---

- *1. LAYER NUMBER (FROM SHEET 4) Binder [5]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16)
(IF OTHER, SPECIFY) P.G. 64-22 []
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A 14)
(IF OTHER, SPECIFY) [0 7]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1 0 3 3]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) []
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) []
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g, 5 sec.) []
- ASPHALT MODIFIERS (SEE TYPE CODE, A 15)
- | | TYPE | QUANTITY (%) |
|---|-------------------------|-----------------------------------|
| 8. MODIFIER #1
<u>None</u> | [<u> </u>] | [<u>0</u> <u>1</u>] |
| 9. MODIFIER #2
(IF OTHER, SPECIFY) | [<u> </u>] | [<u>0</u> <u>1</u>] |
| 10. DUCTILITY AT 77°F (cm)
(AASHTO T51) | [<u> </u> <u> </u>] | [<u> </u> <u> </u> <u> </u>] |
| 11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) | [<u> </u> <u> </u>] | [<u> </u> <u> </u> <u> </u>] |
| 12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°F (CM/MIN) | [<u> </u> <u> </u>] | [<u> </u> <u> </u> <u> </u>] |
| 13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
(200 g, 60 sec.) | [<u> </u> <u> </u>] | [<u> </u> <u> </u> <u> </u>] |
| 14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) | [<u> </u> <u> </u>] | [<u> </u> <u> </u> <u> </u>] |

NOTE If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

----- L. D. Dunnem BRE DATE 4-27-97

August 1995

SPS-9A. CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>2</u> <u>9</u>] [<u>2</u> <u>2</u>]

- *1. LAYER NUMBER (FROM SHEET 4) Surface [6]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16)
(IF OTHER, SPECIFY) P. G. 64-22 []
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [21]
- 4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1 0 3 3]

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

- 5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [- - -]
- 6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [- - -]
- 7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g., 5 sec.) [- -]
- ASPHALT MODIFIERS (SEE TYPE CODE, A.15) TYPE QUANTITY (%)
- 8. MODIFIER #1 None [] [0]
- 9. MODIFIER #2
(IF OTHER, SPECIFY) [] [0]
- 10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [-]
- 11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [-]
- 12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°F (CM/MIN) [-]
- 13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
(200 g., 60 sec.) [- -]
- 14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [-]

NOTE. If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

John W. Dunn EMPLOYED BRE

DATE 4-27-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>7</u>] [<u>0</u> <u>2</u>]
--	--	---

- *1. LAYER NUMBER (FROM SHEET 4) Level 0p [4]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [64] - [22]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [07]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1.033]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(Tank Asphalt) (AASHTO TP5) [159] []
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(RTFO Asphalt) (AASHTO TP5) [303] []
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(PAV Asphalt) (AASHTO TP5) [4856] []
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa,RATIO)
(PAV Asphalt) (AASHTO TP1) [183] [0331]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa,RATIO)
(PAV Asphalt) (AASHTO TP3) [] []

L. W. Dunn ----- RRF

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>7</u>] * TEST SECTION NO. [<u>0</u> <u>2</u>]
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- *1. LAYER NUMBER (FROM SHEET 4) Binder [5]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [64] - [22]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [07]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1.033]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(Tank Asphalt) (AASHTO TPS) [1.59] [] ~~100deg=57.3°~~
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(RTFO Asphalt) (AASHTO TPS) [3.03] [] ~~57.3°~~
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(PAV Asphalt) (AASHTO TPS) [4855.6] [] ~~57.3°~~
(4856)
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa,RATIO)
(PAV Asphalt) (AASHTO TP1) [1.83] [033] [L]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa,RATIO)
(PAV Asphalt) (AASHTO TP3) [] : [] : []

Zane W. Dunn BRE

DATE 4-11-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE [0 5] * SPS PROJECT CODE [0 7] * TEST SECTION NO. [0 2]
--	--

- *1. LAYER NUMBER (FROM SHEET 4) Surface [6]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [6 4] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [0 7]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1.0 3 3]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
100% - 573°
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(Tank Asphalt) (AASHTO TP5) [1 . 5 9] [5 7 3 °]
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(RTFO Asphalt) (AASHTO TP5) [3 . 0 3] [5 2 3 °]
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(PAV Asphalt) (AASHTO TP5) [4 8 5 6] [5 7 3 °]
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa,RATIO)
(PAV Asphalt) (AASHTO TP1) [1 8 3] [0 3 3 1]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa,RATIO)
(PAV Asphalt) (AASHTO TP3) [1 1 1 1] [1 1 1 1]

Z.D. Danner BRE

DATE 4-11-97

March 1997

SPS-9 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES - DESIGN	* STATE CODE <u>0 5</u> * SPS PROJECT CODE <u>0 9</u> * TEST SECTION NO. <u>0 2</u>
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ENCL D MAY 28 1997 AS

*1. LAYER NUMBER (FROM SHEET 4)	<u>6</u>
*2. TYPE OF MIX DESIGN Marshall . 1 HVEEM...2 SUPERPAVE...3 Other (Specify) ...4	<u>3</u>
3. MAXIMUM SPECIFIC GRAVITY (NO AIR Voids) (AASHTO T209 OR ASTM D2041)	<u>2.444</u>
4. BULK SPECIFIC GRAVITY (ASTM D1138)	<u>2.295</u>
5. ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)	<u>5.0</u>
6. AIR Voids (PERCENT)	<u>4.0</u>
7. Voids in MINERAL AGGREGATE (PERCENT)	<u>15.4</u>
8. EFFECTIVE ASPHALT CONTENT (PERCENT)	<u>—</u>
9. MARSHALL STABILITY (lb) (AASHTO T245 OR ASTM D1559)	<u>—</u>
10. NUMBER OF BLOWS	<u>—</u>
11. MARSHALL FLOW (0.01 in) (AASHTO T245 OR ASTM D1559)	<u>—</u>
12. HVEEM STABILITY (AASHTO T246 OR ASTM D1561)	<u>—</u>
13. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH) (AASHTO T246 OR ASTM 1561)	<u>—</u>
14. SUPERPAVE GYRATORY COMPACTION N _{design}	<u>169</u>
15. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16)	<u>—</u>
16. SUPERPAVE ASPHALT BINDER GRADE	<u>264 - 22</u>

PREPARED Liam W. Dunn EMPLOYER BRE DATE 5-27-97

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>2</u>]
--	--	---

P.C. 64-22

*1. LAYER NUMBER (FROM SHEET 4)	Level Up	[<u>4</u>]	
*2. TYPE OF SAMPLES SAMPLES COMPACTED IN LABORATORY... 1 SAMPLES TAKEN FROM TEST SECTION . 2		[<u>2</u>]	
*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041)		[<u>2</u> <u>4</u> <u>1</u> <u>5</u>]	
BULK SPECIFIC GRAVITY (ASTM D1188)			
*4. MEAN	[<u>2</u> <u>2</u> <u>9</u> <u>1</u>]	NUMBER OF TESTS [<u>4</u>]	
5. MINIMUM	[<u>2</u> <u>2</u> <u>4</u> <u>6</u>]	MAXIMUM [<u>2</u> <u>3</u> <u>2</u> <u>3</u>]	
6.		STD DEV. [<u>0</u> <u>0</u> <u>3</u> <u>2</u>]	
ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)			
*7. MEAN	[<u>5</u> <u>.2</u>]	NUMBER OF SAMPLES [<u>4</u>]	
8. MINIMUM	[<u>5</u> <u>.1</u>]	MAXIMUM [<u>5</u> <u>3</u>]	
9.		STD DEV. [<u>0</u> <u>0</u>]	
PERCENT AIR Voids			
*10. MEAN	[<u>3</u> <u>8</u> <u>3</u> <u>6</u>]	NUMBER OF SAMPLES [<u>7</u>]	
11. MINIMUM	[<u>3</u> <u>2</u>]	MAXIMUM [<u>5</u> <u>2</u> <u>4</u> <u>2</u>]	
12.		STD DEV. [<u>0</u> <u>4</u>]	
*13. VOIDS IN MINERAL AGGREGATE (PERCENT)		[<u>1</u> <u>5</u> <u>9</u>]	
*14. EFFECTIVE ASPHALT CONTENT (PERCENT)		[<u>—</u> <u>—</u> <u>—</u>]	
*15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)	4°C	20°C	40°C
No Data Available	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]
*16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)	4°C	20°C	40°C
	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]
*17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)	4°C	20°C	40°C
	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]
*18. SIMPLE SHEAR	4°C	20°C	40°C
	Axial Stress, kPa	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]
	Shear Stress, kPa	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]
	Shear Strain mm/mm	[<u>—</u> <u>—</u>]	[<u>—</u> <u>—</u>]
*19. TYPE OF ANTISTRIPPING AGENT USED (SEE TYPE CODES, TABLE A 21) OTHER (SPECIFY)	None Used		[<u>—</u>]
*20. AMOUNT OF ANTISTRIPPING AGENT USED	LIQUID OR SOLID CODE		[<u>—</u>]
*21. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.)			[<u>—</u> <u>—</u> <u>—</u>]

Karen H. Dunn BRE

DATE 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>2</u>]
--	--	---

- *1. LAYER NUMBER (FROM SHEET 4) 8-6-64-22 Binder [5]
- *2. TYPE OF SAMPLES
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2 [2]
- *3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) [2 4 1 5]
- BULK SPECIFIC GRAVITY (ASTM D1188)
- *4. MEAN [2 2 9 1] NUMBER OF TESTS [4]
5. MINIMUM [2 2 4 2] MAXIMUM [2 3 2 3]
6. STD. DEV. [0 0 3 2]
- ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T154 OR ASTM D2172)
- *7. MEAN [5.2] NUMBER OF SAMPLES [4]
8. MINIMUM [5.1] MAXIMUM [5.3]
9. STD. DEV. [0.0]
- PERCENT AIR Voids
- *10. MEAN [3.6] NUMBER OF SAMPLES [7]
11. MINIMUM [3.2] MAXIMUM [4.2]
12. STD. DEV. [0.4]
- *13. VOIDS IN MINERAL AGGREGATE (PERCENT) [1 5.9]
- *14. EFFECTIVE ASPHALT CONTENT (PERCENT) [— —]
- *15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)
4°C [— —] 20°C [— —] 40°C [— —]
- *16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)
4°C [— —] 20°C [— —] 40°C [— —]
- *17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)
4°C [— —] 20°C [— —] 40°C [— —]
- *18. SIMPLE SHEAR
Axial Stress, kPa [— —] 4°C [— —] 20°C [— —] 40°C [— —]
Shear Stress, kPa [— —] [— —] [— —] [— —]
Shear Strain mm/mm [— —] [— —] [— —] [— —]
- *19. TYPE OF ANTISTRIPPING AGENT USED
(SEE TYPE CODES, TABLE A.21) None Used [— —]
OTHER (SPECIFY) _____
- *20. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [— —]
- *21. (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight.) [— —]

Karen W. Dunn EMPLOYEE BRE DATE 3-7-97

SPS-9A CONSTRUCTION DATA - SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 2]
*1. LAYER NUMBER (FROM SHEET 4)	P-6. <i>64-22</i> Surface [6] [2]	
*2. TYPE OF SAMPLES SAMPLES COMPACTED IN LABORATORY . . 1 SAMPLES TAKEN FROM TEST SECTION . . 2		
*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041)	[2.464]	
BULK SPECIFIC GRAVITY (ASTM D1138)		
*4. MEAN [2.295]	NUMBER OF TESTS [1]	
5. MINIMUM [2.295]	MAXIMUM [2.295]	
6.	STD. DEV [0.0]	
ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)		
*7. MEAN [5.3]	NUMBER OF SAMPLES [1]	
8. MINIMUM [5.3]	MAXIMUM [5.3]	
9.	STD. DEV [0.0]	
PERCENT AIR Voids		
*10. MEAN [4.7]	NUMBER OF SAMPLES [2]	
11. MINIMUM [4.5]	MAXIMUM [4.9]	
12.	STD. DEV [0.1]	
*13. VOIDS IN MINERAL AGGREGATE (PERCENT)	[15.5]	
*14. EFFECTIVE ASPHALT CONTENT (PERCENT)	[]	
*15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ) 4°C 20°C 40°C	[] [] []	
*16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm) 4°C 20°C 40°C	[] [] []	
*17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm) 4°C 20°C 40°C	[] [] []	
*18. SIMPLE SHEAR Axial Stress, kPa 4°C 20°C 40°C Shear Stress, kPa [] [] [] Shear Strain mm/mm [] [] []	[]	
*19. TYPE OF ANTISTRIPPING AGENT USED (SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) <i>None Used</i>	[]	
*20. AMOUNT OF ANTISTRIPPING AGENT USED	LIQUID OR SOLID CODE []	
*21. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.)	[]	

L. W. Deamer E.I.C.E. BRE

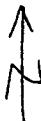
DATE 4-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 11 CUT-FILL SECTION LOCATIONS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[05] [09] [REDACTED]92

ORDER	*1 CUT-FILL TYPE ¹	TEST SECTION STATION NUMBER	
		*2 START	*3 END
1	<u>2</u>	0 + 0 0	5 + 0 0
2	---	----- + ---	----- + ---
3	---	----- + ---	----- + ---
4	---	----- + ---	----- + ---
5	---	----- + ---	----- + ---
6	---	----- + ---	----- + ---
7	---	----- + ---	----- + ---
8	---	----- + ---	----- + ---
9	---	----- + ---	----- + ---
10	---	----- + ---	----- + ---

- NOTES:
1. Indicate the type of subgrade construction with one of the following.
Cut... 1 Fill... 2
 2. Use one line for each cut or fill zone present within the section boundaries



Z 210

----- RRF

DATE 3/7/97

August 1995

SPS-9A CONSTRUCTION DATA
SHEET 12
PLANT-MIXED ASPHALT BOUND LAYERS
PLACEMENT DATA

* STATE CODE	[<u>0</u> <u>5</u>]
* SPS PROJECT CODE	[<u>0</u> <u>9</u>]
* TEST SECTION NO.	[<u>0</u> <u>2</u>]

- | | | | | | | |
|------------|---|---------------------|-------------------------|-------------------------|---------------|---|
| 1. | DATE SURFACE PREPARATION BEGAN (Month-Day-Year) | | | | | (<u>1</u> <u>2</u> - <u>0</u> <u>9</u> - <u>9</u> <u>6</u>) |
| 2. | DATE SURFACE PREPARATION COMPLETED (Month-Day-Year) | | | | | (<u>1</u> <u>2</u> - <u>0</u> <u>9</u> - <u>9</u> <u>6</u>) |
| 3. | SURFACE PREPARATION PRIOR TO PLACEMENT OF OVERLAY | | | | | (<u>3</u>) |
| | None 1 Broomed 2 Broomed + Asphaltic Tack Coat | | | | | 3 |
| | Asphaltic Tack Coat (only) 4 | | | | | |
| 4. | TACK COAT | | | | | (<u>2</u> <u>2</u>) |
| | Material Type None..... 1 SS-1 . . . 2 SS-1H.... 3 CRS-1... . 4 | | | | | |
| | CRS-2. . . 5 CMS-2... . 6 CMS-2H.. 7 CSS-1 . . 8 CSS-1H. . 9 | | | | | |
| | Other . . . 10 (Specify) _____ | | | | | |
| 5. | TACK COAT DILUTION
(Percent) | | | | | (<u>5</u> <u>0</u>) |
| | Mixing Rate <u>50%</u> <u>water</u>
Parts Diluent [__ __] TO Parts Asphalt [__ __] | | | | | |
| 6. | TACK COAT APPLICATION RATE (Gal/Sq. Yd.) | | | | | (<u>0</u> <u>0</u> <u>3</u>) |
| 7. | ASPHALT CONCRETE PLANT AND HAUL | | | | | |
| | Type | Name | Haul Distance (Mi) | Time (Min) | Layer Numbers | |
| Plant 1 | (<u>2</u>) | <u>E.C. Rowlett</u> | (<u>3</u> <u>3</u>) | (<u>3</u> <u>5</u>) | (<u>4</u>) | (<u>5</u>) |
| Plant 2 | (<u> </u>) | _____ | (<u> </u> <u> </u>) | (<u> </u> <u> </u>) | (<u> </u>) | (<u> </u>) |
| Plant 3 | (<u> </u>) | _____ | (<u> </u> <u> </u>) | (<u> </u> <u> </u>) | (<u> </u>) | (<u> </u>) |
| Plant Type | Batch | 1 Drum Mix | 2 Other | 3 Specify | | |
| 8. | MANUFACTURER OF ASPHALT CONCRETE PAVER | | | | | <u>Blaw-Knox</u> |
| 9. | MODEL DESIGNATION OF ASPHALT CONCPETE PAVER | | | | | <u>PF-5510</u> |
| 10. | SINGLE PASS LAYDOWN WIDTH (Feet) | | | | | (<u>1</u> <u>1</u> <u>3</u> <u>0</u>) |

11 Layer No	12 Material Type Classification Code	13 Nominal Lift Placement Thickness				14 Tack Coat Between Lifts? (Y/N)	15 Transverse Joint Station
		1 st Lift	2 nd Lift	3 rd Lift	4 th Lift		
4	[01]	[10]	[]	[]	[]	[Y]	[-]
5	[01]	[40]	[]	[]	[]	[Y]	[-]
6	[01]	[20]	[]	[]	[]	[Y]	[-]

- 16 LOCATION OF LONGITUDINAL SURFACE JOINT
Between lanes 1 Within lane 2 (specify offset from O/S feet) 12 0

17 SIGNIFICANT EVENTS DURING CONSTRUCTION(disruptions, rain, equip problems, etc)

L.H. BRE DATE 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 2]
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- *1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *3. LAYER NUMBER [4]
 *4. MIXING TEMPERATURE (°F) [3 1 0.]
 5 LAYDOWN TEMPERATURES (°F)
 Mean..... [2 8 5] Number of Tests [1 .]
 Minimum..... [2 8 5.] Maximum..... [2 8 5]
 Standard Deviation.. [2 . 0]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mph)
6	A	Steel-Whl Tandem	— — —				
7	B	Steel-Whl Tandem	— — —				
8	C	Steel-Whl Tandem	— — —				
9	D	Steel-Whl Tandem	— — —				
10	E	Pneumatic-Tired	— — —				
11	F	Pneumatic-Tired	— — —				
12	G	Pneumatic-Tired	— — —				
13	H	Pneumatic-Tired	— — —				
14	I	Single-Drum Vibr.	— — —				
15	J	Single-Drum Vibr.	— — —				
16	K	Single-Drum Vibr.	— — —				
17	L	Single-Drum Vibr.	— — —				
18	M	Double-Drum Vibr.	1 1 8	3 0 0 0	0 2 7	— —	— —
19	N	Double-Drum Vibr.	— — —				
20	O	Double-Drum Vibr.	— — —				
21	P	Double-Drum Vibr.	— — —				
22	Q	Other	Combination steel (static) drum And rubber Tires				
		COMPACTON DATA	First Lift	Second Lift	Third Lift	Fourth Lift	
23		BREAKDOWN Roller Code (A-Q) Coverages	M — 2 4	— —	— —	— —	
25		INTERMEDIATE Roller Code (A-Q) Coverages	— —	— —	— —	— —	
27		FINAL Roller Code (A-Q) Coverages	Q — 2	— —	— —	— —	
29		Air Temperature (°F)	— 6 5	— — —	— — —	— — —	
30		Compacted Thickness (in)	— 1 0	— — —	— — —	— — —	
31		Curing Period (Days)	— 0	— — —	— — —	— — —	

Surface Mix was placed 2 months after the Binder Mix
 Road was open to traffic approximately 2 months after laying
 the surface mix.


T. J. Danner EMPLOYEE BRE

DATE 3-7-97

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [0 2]
---	--	--	--

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 0 - 2 8 - 9 6]
 *3. LAYER NUMBER [5]
 *4. MIXING TEMPERATURE (°F) [3 1 0.]
 5. LAYDOWN TEMPERATURES (°F)
 Mean [2 8 5] Number of Tests [1 1 .]
 Minimum..... [2 8 5] Maximum..... [2 8 5]
 Standard Deviation... [2 0]

ROLLER DATA

Roller Code #	Roller Description	Gross Wt (Tons)	Time Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mph)
6 A	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
7 B	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
8 C	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
9 D	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
10 E	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
11 F	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
12 G	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
13 H	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
14 I	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
15 J	Single-Drum Vibr	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
16 K	Single-Drum Vibr	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
17 L	Single-Drum Vibr	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
18 M	Double-Drum Vibr	11 8	[REDACTED]	3 0 0 0	0 2 7	[REDACTED]
19 N	Double-Drum Vibr	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
20 O	Double-Drum Vibr	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
21 P	Double-Drum Vibr	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
22 Q	Other	Combination steel (Steel) drum and Rubber Tires				
COMPACTIION DATA		First Lift	Second Lift	Third Lift	Fourth Lift	
23 BREAKDOWN Roller Code (A-Q) 24 Coverages		M — 4	—	—	—	—
25 INTERMEDIATE Roller Code (A-Q) 26 Coverages		—	—	—	—	—
27 FINAL Roller Code (A-Q) 28 Coverages		Q — 2	—	—	—	—
29 Air Temperature (°F) 30 Compacted Thickness (in) 31 Curing Period (Days)		— 6 5 — 4 0 — 2 2	— — —	— — —	— — —	— — —

Surface mix was placed 2 months after the Binder mix
 Road was open to traffic approximately 2 months after laying
 the surface mix.

T. J. D. BRE

Date 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [O S] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [2 1]
---	--	--	---

- *1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 0 - 0 8 - 9 6]
- *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 0 - 2 8 - 9 6]
- *3. LAYER NUMBER [5]
- *4. MIXING TEMPERATURE (°F) [3 1 0.]
- 5. LAYDOWN TEMPERATURES (°F)
 - Mean..... [2 8 5] Number of Tests [1]
 - Minimum. [2 8 5] Maximum..... [2 8 5]
 - Standard Deviation... [2 0 0]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mpn)
6	A	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
7	B	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
8	C	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
9	D	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
10	E	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
11	F	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
12	G	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
13	H	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
14	I	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
15	J	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
16	K	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
17	L	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
18	M	Double-Drum Vibr.	11 8	[REDACTED]	3 0 0 0	0 2 7	[REDACTED]
19	N	Double-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
20	O	Double-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
21	P	Double-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
22	Q	Other	Combination steel (Static) drum and Rubber Tires				

	COMPACTON DATA	First Lift	Second Lift	Third Lift	Fourth Lift
23	BREAKDOWN Roller Code (A-Q) Coverages	M — 4	— —	— —	— —
24	INTERMEDIATE Roller Code (A-Q) Coverages	— —	— —	— —	— —
25	FINAL Roller Code (A-Q) Coverages	Q — 2	— —	— —	— —
29	Air Temperature (°F)	— 6 5	— — —	— — —	— — —
30	Compacted Thickness (in)	— 4 0	— — —	— — —	— — —
31	Curing Period (Days)	6 2	— — —	— — —	— — —

Surface Mix was placed 2 months after the Binder Mix.
Road was open to traffic approximately 2 months after laying the surface mix.

T. J. D. BRE

DATE 3-7-97

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [0 2]
---	--	--	--

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 2 - 0 9 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 2 - 0 9 - 9 6]
 *3. LAYER NUMBER [6]
 *4. MIXING TEMPERATURE (°F) [3 1 0]
 5. LAYDOWN TEMPERATURES (°F)
 Mean. [2 8 5] Number of Tests [1 1]
 Minimum..... [2 8 5] Maximum... [2 8 5]
 Standard Deviation... [2 0]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mpn)
5	A	Steel-Whl Tandem	---				
7	B	Steel-Whl Tandem	---				
8	C	Steel-Whl Tandem	---				
9	D	Steel-Whl Tandem	---				
10	E	Pneumatic-Tired	---				
11	F	Pneumatic-Tired	---				
12	G	Pneumatic-Tired	---				
13	H	Pneumatic-Tired	---				
14	I	Single-Drum Vibr.	---				
15	J	Single-Drum Vibr	---				
16	K	Single-Drum Vibr	---				
17	L	Single-Drum Vibr	---				
18	M	Double-Drum Vibr	11 8		3000	0.27	---
19	N	Double-Drum Vibr	---				
20	O	Double-Drum Vibr	---				
21	P	Double-Drum Vibr	---				
22	Q	Other	Combination steel (static) drum and rubber tires				
		COMPACTON DATA	First Lift	Second Lift	Third Lift	Fourth Lift	
23	24	BREAKDOWN Roller Code (A-Q) Cov.ages	M — 4	—	—	—	—
25	26	INTERMEDIATE Roller Code (A-Q) Cov.ages	—	—	—	—	—
27	28	FINAL Roller Code (A-Q) Cov.ages	Q — 2	—	—	—	—
29	30	Air Temperature (°F)	— 65	—	—	—	—
30	31	Compacted Thickness (in)	— 2	—	—	—	—
31		Curing Period (Days)	— 60	—	—	—	—

Surface mix was placed 2 months after the Binder Mix
 Road was open to traffic approximately 2 months after laying
 the surface mix.

 BRE

DATE 3-7-97

August 1995

SPS-9A- CONSTRUCTION DATA SHEET 14 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>2</u>]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	Surface Course	Surface Friction Layer
Measurement Method (A, B, C) ¹	<u>A</u>	—
Number of Measurements	<u>1</u> <u>2</u>	— —
Average (pcf)	<u>1</u> <u>3</u> <u>0</u> . <u>6</u>	— — —
Maximum (pcf)	<u>1</u> <u>3</u> <u>5</u> <u>2</u>	— — —
Minimum (pcf)	<u>1</u> <u>2</u> <u>6</u> <u>7</u>	— — —
Standard Deviation (pcf)	— — <u>2</u> <u>7</u>	— — —
Layer Number	— — <u>6</u>	— —

¹Measurement Method Backscatter.. A Direct Transmission.. B Air Gap. C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler
3. NUCLEAR DENSITY GAUGE MODEL NUMBER
4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER #24
5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION [— — — — —]
6. PROFILOGRAPH MEASUREMENTS KJ LAW
- Profilograph Type California .. 1 Rainnart.. 2 Other .. 3 [3]
- Profile Index (in/mile) [— — —]
- Interpretation Method Manual 1 Mechanical 2 Computer . 3 [3]
- Height of Blanking Band (in) [— — —]
- Cutoff Height (in) [— . — —]
7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [No]

James H. Hansen EMPLOYER BRE DATE 3/10/97

August 1995

SPS-9A- CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	<u>0</u> <u>5</u> <u>0</u> <u>9</u> <u>0</u> <u>2</u>
---	--	---

LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
2+0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - - - - - - -	- <u>5</u> <u>0</u> - <u>5</u> <u>6</u> - <u>5</u> <u>3</u> - <u>5</u> <u>6</u> - <u>6</u> <u>0</u>	- - - - - - - - - - - - - - - - - - - -
0+5 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - - - - - - -	- <u>4</u> <u>9</u> - <u>5</u> <u>2</u> - <u>5</u> <u>1</u> - <u>5</u> <u>6</u> - <u>5</u> <u>9</u>	- - - - - - - - - - - - - - - - - - - -
1+0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - - - - - - -	- <u>5</u> <u>1</u> - <u>5</u> <u>1</u> - <u>5</u> <u>1</u> - <u>5</u> <u>7</u> - <u>5</u> <u>7</u>	- - - - - - - - - - - - - - - - - - - -
1+5 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - - - - - - -	- <u>5</u> <u>2</u> - <u>5</u> <u>1</u> - <u>5</u> <u>2</u> - <u>5</u> <u>5</u> - <u>5</u> <u>5</u>	- - - - - - - - - - - - - - - - - - - -
2+0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - - - - - - -	- <u>5</u> <u>0</u> - <u>5</u> <u>8</u> - <u>5</u> <u>0</u> - <u>5</u> <u>2</u> - <u>5</u> <u>5</u>	- - - - - - - - - - - - - - - - - - - -
2+5 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - - - - - - -	- <u>6</u> <u>4</u> - <u>6</u> <u>1</u> - <u>6</u> <u>0</u> - <u>6</u> <u>1</u> - <u>6</u> <u>2</u>	- - - - - - - - - - - - - - - - - - - -
3+0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - - - - - - -	- <u>4</u> <u>9</u> - <u>5</u> <u>2</u> - <u>5</u> <u>3</u> - <u>5</u> <u>5</u> - <u>5</u> <u>5</u>	- - - - - - - - - - - - - - - - - - - -
LAYER NUMBER-		---	<u>0</u> <u>6</u>	---

from Sheet 4

✓ 7/10 BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[05] [09] [02]
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LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
3+50	-0 -36 -72 -108 -144	— — — — —	— 4 8 — 4 6 — 4 7 — 4 9 — 5 1	— — — — —
4+00	-0 -36 -72 -108 -144	— — — — —	— 5 0 — 4 9 — 5 2 — 5 2 — 5 2	— — — — —
4+50	-0 -36 -72 -108 -144	— — — — —	— 5 5 — 5 3 — 5 2 — 5 3 — 5 2	— — — — —
5+00	-0 -36 -72 -108 -144	— — — — —	— 4 4 — 4 9 — 5 0 — 5 0 — 5 0	— — — — —
—+—	— — — — —	— — — — —	— — — — —	— — — — —
—+—	— — — — —	— — — — —	— — — — —	— — — — —
—+—	— — — — —	— — — — —	— — — — —	— — — — —
LAYER NUMBER:	—	—	0 6	—

* from Sheet 4

Z. J. Danner BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 16 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 2]
---	---

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

Vibrroller (Hypac C766B) 2 pass w/vibration then 2 passes static; then 2 passes with the pneumatic roller.

A pass is considered up + back ↑↓

Used a LeeBoy 400 (minicroller) on shoulders

ZJD BRE DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 20 PRE-OVERLAY SURFACE PREPARATION SKETCH	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>051</u>] [<u>09</u>] [<u>02</u>]
--	--	--

NO sketch available

PREPARED Lance V. Quans EMPLOYER BRE DATE 3-10-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 24 ASPHALT PATCHING OF PCC PAVEMENTS	* STATE CODE [0 5]
	* SPS PROJECT CODE [0 9]
	* TEST SECTION NO. [0 2]

1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) [- -]
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) [- -]
3. PRIMARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____ []
4. SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____ []
5. SUMMARY OF PATCHING

NUMBER	TOTAL AREA (SQ. ft)
Surface Only []	[]
Surface and partial base replacement []	[]
Full depth []	[]
6. METHOD USED TO DETERMINE LOCATION AND SIZES OF PATCHES

Deflection	1 Coring	2 Visual.	3 Other	4	(specify)
None []					
7. METHOD USED TO FORM PATCH BOUNDARIES

None	1 Saw Cut	2 Air Hammer	3 Cold Milling	4
Other . []	5 (Specify) _____			
8. COMPACTION EQUIPMENT

None	1 Pneumatic roller	2 Vibratory Plate Compactor	3	6
Vibratory Roller []	4 Steel Wheel Roller	5 Truck Tire .		
Hand Tools . []	7 Other . .	8 (Specify) _____		
9. PATCH MATERIAL

Hot Mix Asphalt Concrete	1 Plant Mix with Cutback Asphalt, Cold Laid	2
Plant Mix with Emulsified Asphalt, Cold Laid	3 Road Mix with Cutback Asphalt	4
Road Mix with Emulsified Asphalt	5 Portland Cement Concrete	6 Other
(Specify) _____	7	8
10. MINIMUM TIME FROM MATERIAL PLACEMENT TO OPENING TO TRAFFIC (Hrs) []
11. MAXIMUM MATERIAL TEMPERATURE FOR TRAFFIC OPENING (if used) (°F) []
12. AIR TEMPERATURE DURING PLACEMENT OPERATIONS

High Temperature (°F)	[]
Low Temperature (°F)	[]
13. PREDOMINATE ROAD SURFACE MOISTURE CONDITION DURING PLACEMENT OPERATIONS

Dry . . . 1	Moist . . 2	Wet. 3	[]
-------------	-------------	-------------	-----------

Did Not Do Patching - Total Rubbleization

PREPARER

Frank J. D.

EMPLOYER

BRE

DATE

3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 25 PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>2</u>]
--	---

1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) [_____]
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) [_____]
3. PRIMARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) [_____]
4. SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) [_____]
5. PATCHES
Total Square (ft) [_____]
Number [_____]
Average Depth, (inch) [_____]
6. METHOD USED FOR PATCH BOUNDARY DETERMINATION [_____]
Visual... 1 Ball Peen Hammer, Steel Rod, Chain or Equivalent... 2
Delam-Tech. 3 Other (Specify) . 4 _____
7. METHOD USED TO CUT BOUNDARIES [_____]
Diamond Blade Saw 1 Carbide Blade Saw . 2 None. 3 Air Hammer . 4
Cold Milling... 5 Other (Specify) .. 6 _____
8. METHOD USED TO BREAK UP AND/OR REMOVE DETERIORATED CONCRETE [_____]
Jackhammer . 1 Cold Milling. 2
Other (Specify) .. 3 _____
9. METHOD FOR FINAL CLEANING OF PATCH AREA [_____]
None.. 1 Sandblasting 2 Waterblasting 3
Other (Specify)... 4 _____

No Patching - Rubblized

----- 210 ... BRE

DATE 3-10-87

SPS-9A CONSTRUCTION DATA SHEET 26 PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO [2 2]
---	--	---

1. PATCH MATERIAL USED	Portland Cement Concrete. 1 Polymer Concrete . 2 Epoxy Mortar Other (Specify) . 5 _____	3 [__]
2 BONDING AGENT	None... 1 Cement Grout. 2 Epoxy Resin . 3 Other (Specify) 4 _____	[__]
3 MIXTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.)	Coarse Aggregate Fine Aggregate Cement Water	[__] [__] [__] [__]
4 MAXIMUM SIZE OF COARSE AGGREGATE, (inch)		[__] [__]
5 CEMENT TYPE USED (See Cement Type Codes, Tables A 11)		[__] [__]
6 AIR CONTENT, PERCENT BY VOLUME		Mean [__] [__] Range Min [__] [__] Max [__] [__]
7. ADMIXTURES (See Cement Additive Codes, Table A.12)		[__] [__]
8 SLUMP, (inch)		Mean [__] [__] Range. Min [__] [__] Max [__] [__]
9 COMPRESSIVE STRENGTH OF PATCH MATERIAL, (psi)		[__] [__] [__]
Curing Time Days if Unavailable, and Other Strength Test Conducted, Alternate Test	[_____]	[__] [__]
Type of Loading [_____]		
Age, Days [__] .	Strength, (psi) [__] [__] [__]	

No patching - All Rabbledized

210

RRF

3-10-97

SPS-9A CONSTRUCTION DATA SHEET 27 PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>2</u>]
---	--

1. CURING METHOD

None... 1 Membrane Curing Compound... 2 Burlap Curing Blankets... 3
 Waterproof Paper Blankets.. 4 White Polyethylene Sheeting... 5
 Burlap-Polyethylene Blankets... 6 Insulating Layers.. 7
 Cotton Mat Curing.. 8 Hay... 9
 Other (Specify)... 10

METHOD 1 []
METHOD 2 []

2. APPROXIMATE TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS []

3. AMBIENT CONDITIONS AT TIME OF PATCHING

LOW [].

Air Temperature °F

HIGH [].

Surface Moisture - Dry = 1, Wet = 2

[]

4. METHOD OF CONSOLIDATING MATERIALS

Vibrators... 1 Vibrating Screeds . 2 Troweling... 3
 Rodding/Tamping. 4 Rolling . 5
 Other (Specify)... 6

[]

5. FINISHING METHOD

Screeeding.. 1 Hand-Troweling. . 2 Machine-Troweling . 3
 Other (Specify). 4

[]

6. JOINT FORMING METHOD

Shoulder []
 Transverse []
 Longitudinal []

None. 1 Polyethylene Strip Insert 2 Styrofoam Insert... 3
 Fiberboard Insert .. 4 Sawing 5 Forms . 6
 Other (Specify)... 7

No Patching - All Rubberized



BRE

3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 28 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>05</u>] [<u>09</u>] [<u>02</u>]

1. DATE JOINT SEALANT OPERATIONS BEGAN (Month-Day-Year) [_____]
2. DATE JOINT SEALANT OPERATIONS COMPLETED (Month-Day-Year) [_____]
3. METHOD OF REMOVING OLD SEALANT
Not Removed . 1 Joint Plow - V-Shaped . 2 Joint Plow - Rectangular.... 3
High Pressure Water Blasting... 4 Diamond Blade Saw . 5
Carbide Blade Saw .. 6 Pull-Out of Old Compression Sealant .. 7
Not Previously Sealed... 8
Other (Specify) ... 9 _____
4. NEW SEALANT RESERVOIR DIMENSIONS, (inch)
Width [_____] _____
Depth (From Top of Slab to Top of Backer Rod or Tape) [_____] _____
5. BOND BREAKER UNDER SEALANT
None. 1 Nonreactive Adhesive Backed Tape. 2 Backer Rod . 3
Other (Specify) . 4 _____
6. WERE JOINT SIDEWALLS REFACED?
No .. 1 Yes - One-Blade 2 Yes - Two-Blade . 3
Other (Specify) . 4 _____
7. CLEANING OF SIDEWALLS
None . 1 Air Blast . 2 Sand Blast 3 Water Blast . 4
Other (Specify) 5 _____

N/A

2-410

----- RAE

DATE 2-16-07

SPS-9A CONSTRUCTION DATA SHEET 29 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <input type="text" value="25"/> * SPS PROJECT CODE <input type="text" value="29"/> * TEST SECTION NO. <input type="text" value="22"/>
---	--

1. TYPE OF CONTRACTION JOINT SEALANT
(AASHTO OR ASTM SPECIFICATIONS)

- D1850 (ASTM) Concrete Joint Sealer, Cold-Application Type... 1
 D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type 2
 D3406 (ASTM) - M282 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
 for PCC Pavements... 3
 D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
 Asphalt Pavements... 4
 D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges... 5
 D2628 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
 Pavements... 6
 Other (Describe - if Silicone Material is Used Federal Spec. TT-S-001543A,
 Georgia D.O.T. Spec 833 06 or Equal Applies . 7
-
-

Manufacturer Information on Type of Pressure Relief Joint Sealant

Manufacturer Name
 Manufacturer Sealant Name

2. AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
BELOW PAVEMENT SURFACE, (inch) 3. ARE EXPANSION JOINTS SEALED DIFFERENTLY THAN CONTRACTION JOINTS?

Yes. 1 No .. 2

If Yes, Enter the code from Item 1, or describe below

Other

4. TOTAL LINEAR FEET OF JOINTS SEALED
Transverse Joints Longitudinal Joints

NOTE IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 26 AND 27 FOR
 EACH RECORDING THEIR LENGTHS IN ITEM NO 4

BRE DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 30 CRACK SEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>2</u>]

1. DATE CRACK SEALING OPERATIONS BEGAN (Month-Day-Year) [____]
2. DATE CRACK SEALING OPERATIONS COMPLETED (Month-Day-Year) [____]
3. NEW SEALANT RESERVOIR DIMENSIONS, Inches If Used
Width [____]
Depth (From Top of Slab to Top of Backer Rod or Tape) [____]
4. BOND BREAKER UNDER SEALANT, If Used
None... 1 Nonreactive Adhesive Backed Tape... 2 Backer Rod... 3
Other (Specify)... 4
5. CLEANING OF CRACKS
None. 1 Routing... 2 Air Blast... 3 Steel Wire Brush .. 4
Brooming... 5 Other (Specify)... 6

No Crack Sealing - Rubbelization then Overlay

Z 7/0 BRE

Date 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 31 CRACK SEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>2</u>]
---	---

1. TYPE OF SEALANT
(AASHTO OR ASTM SPECIFICATIONS) []

- D1850 (ASTM) Concrete Joint Sealer, Cold-Application Type... 1
D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type... 2
D3406 (ASTM) - M282 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
for PCC Pavements. . 3
D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
Asphalt Pavements. . 4
D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges... 5
D2628 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
Pavements... 6
Other (Describe - if Silicone Material is Used Federal Spec. TT-S-001543A,
Georgia D.O.T. Spec 833.06, or Equal Applies... 7

Manufacturer Information on Type of Pressure Relief Crack Sealant

Manufacturer Name []
Manufacturer Sealant Name []

2 AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
Below Pavement Surface, (inch) []

3. TOTAL LINEAR FEET OF CRACKS SEALED []

NOTE IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 28 AND 29 FOR
EACH RECORDING THEIR LENGTHS IN ITEM NO 3

No Sealing - Rubbelization then Overlay

 T. D. Hansen EMPLOYEE BRE

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 32 DIAMOND GRINDING FOR PORTLAND CEMENT CONCRETE PAVEMENT SURFACES		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 2]
1.	DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year)	[- - - - -]
2.	DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year)	[- - - - -]
3.	REASON FOR GRINDING Elimination of Faulting... 1 Elimination of Slab Warping... 2 Improve Skid Resistance. . 3 Restoration of Transverse Drainage Slope. . 4 Other (Specify) ... 5	[]
4.	AVERAGE DEPTH OF CUT. (inch)	[____]
5.	CUTTING HEAD WIDTH, (inch)	[____]
6.	AVERAGE GROOVE WIDTH, (inch)	[____]
7.	AVERAGE SPACING BETWEEN BLADES, (inch)	[____]

No Grinding - Rubbletation then Overlay


L. D. Johnson EMPLOYEE BRE DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 33
FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES

- | | | |
|--|-----------------------|-----------------|
| 1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) | [- - -] | |
| 2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) | [- - -] | |
| 3. PRIMARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB
(See Table A.22 for Type Codes)
Other (Specify) _____ | [- - -] | |
| 4. SECONDARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB
(See Table A.22 for Type Codes)
Other (Specify) _____ | [- - -] | |
| 5. PATCHES | NUMBER | SQ. FEET |
| SLAB ONLY | [- -] | [- - - -] |
| SLAB AND BASE | [- -] | [- - - -] |
| 6. PATCH MATERIAL USED | | |
| Portland Cement Concrete... 1 | Polymer Concrete... 2 | Epoxy Mortar. 3 |
| Other (Specify) ... 4 | | |
| 7. SLABS REPLACED | NUMBER | SQ. FEET |
| SLAB ONLY | [- -] | [- - - -] |
| SLAB AND BASE | [- -] | [- - - -] |
| 8. METHOD FOR PATCH BOUNDARY DETERMINATION | | |
| Visual 1 Coring . 2 Deflection.. 3 | | |
| State Standard or Specification. . 4 | | |
| Other (Specify) .. 5 | | |
| 9. CUTTING INSTRUMENT | | |
| Diamond Blade Saw... 1 | Carcide Blade Saw 2 | Wheel Saw .. 3 |
| Air Hammer 4 | | |
| Other (Specify) ... 5 | | |

Rubbleized then overlay

Z.D.J. **EMPLOYER** RRF

Date 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 34 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [05] * SPS PROJECT CODE [09] * TEST SECTION NO. [02]
---	--

1. SECURING LOAD TRANSFER DEVICES
None... 1 Grout Filler... 2 Epoxy filler . 3
Other... 4 _____ [__]
2. REINFORCING STEEL PLACED IN PATCH
No... 1 Yes.. 2 _____ [__]
- TEMPERATURE STEEL
Transverse Longitudinal
3. REBAR NUMBER _____ [__] _____ [__]
4. BAR LENGTHS, (inch) _____ [__] _____ [__]
5. BAR SPACING, (inch) _____ [__] _____ [__]
 Dowel Bars Tie Bars
6. REBAR NUMBER _____ [__] _____ [__]
7. BAR LENGTHS, (inch) _____ [__] _____ [__]
8. BAR SPACING, (inch) _____ [__] _____ [__]
9. DOWEL COATINGS
None . 1 Paint and/or Grease 2 Plastic . 3
Monel . 4 Stainless Steel. 5 Epoxy 6
Other (Specify) . 7 _____ [__]
10. NUMBER OF SAW CUTS PER PATCH (If Sawed) _____ [__]
11. DEPTH OF TYPICAL BOUNDARY SAW CUT, (inch) _____ [__] _____ [__]
12. CONCRETE BREAKUP
None. 1 Pneumatic Air Hammer . 2 Gravity Drop Hammer . 3
Sawing... 4 _____ [__]
Other (Specify) . 5 _____ [__]
13. REMOVAL OF CONCRETE
Concrete Breakup and Cleanout 1 Lift Out Intact Slab Section 2 _____ [__]
Other (Specify) .. 3 _____ [__]

N/A

John H. Deamer EMPLOYED BRE

DATE 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 35 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>2</u>]
--	---

1. METHOD OF REINFORCING STEEL PLACEMENT
Chairs... 1 Between Layers of Concrete... 2 []
2. MIXTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.)
Coarse Aggregate []
Fine Aggregate []
Cement []
Water []
3. CEMENT TYPE USED
(See Type Codes, Tables A.11) []
4. AIR CONTENT, PERCENT BY VOLUME
Mean []
Range [] to []
5. ADMIXTURES
(See Cement Additive Codes, Table A.12) []
6. SLUMP, (inch)
Mean []
Range [] to []
7. FLEXURAL STRENGTH (MODULUS OF RUPTURE), psi
(Based on 3rd Point Loading, Curing Time, Days
If Unavailable, and Other Strength Test Conducted,
Enter Alternate Test []
Type of Loading []
Age, Days []. Strength, psi []
8. AMBIENT CONDITIONS AT TIME OF PATCHING
Air Temperature °F []
Surface Moisture - Dry = 1, Wet = 2 HIGH []
9. MAXIMUM SIZE OF COARSE AGGREGATE, (inch) []
10. CONSOLIDATION OF MATERIALS
Internal Vibrators.. 1 Vibrating Screeds.. 2 Troweling 3 []
Rolling.. 4 Tamping.. 5
Other (Specify) 6 []
- 12 FINISHING
Screeeding .. 1 Hand-Troweling 2 Machine-Troweling . 3 []
Other (Specify) .. 4 []

Z 11 D RDP

3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 36 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>2</u>]

1. JOINT FORMING METHOD SHOULDER TRANSVERSE LONGITUDINAL
[] [] []
- None... 1 Polyethylene Strip Insert... 2 Styrofoam Insert.. 3
Fiberboard Insert .. 4 Sawing... 5 Forms. . 6
Other (Specify) ... 7
2. WAS BOND BREAKER USED BETWEEN ADJACENT LANES?
Yes... 1 No... 2 []
3. CURING METHOD METHOD 1 []
METHOD 2 []
None .. 1 Membrane Curing Compound... 2 Burlap Curing Blankets... 3
Waterproof Paper Blankets... 4 White Polyethylene Sheeting. . 5
Burlap-Polyethylene Blankets... 6 Insulating Layers... 7
Cotton Mat Curing... 8 Hay. . 9
Other (Specify) 10
4. APPROXIMATE TYPICAL TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS []
5. TYPE OF TRANSVERSE JOINTS IN PATCHES
OR SLABS []
None 1 All Expansion Joints 2 All Contraction Joints 3
Mixture of Expansion and Contraction Joints 4
6. WERE OLD JOINTS MATCHED?
Yes . 1 No. . 2 []

N/A

----- Z. W. D. EMPLOYEE BRE

DATE 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 37 LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO [<u>0</u> <u>2</u>]
--	---

1. DATE LOAD TRANSFER RESTORATION BEGAN (Month-Day-Year) [_____]
2. DATE LOAD TRANSFER RESTORATION COMPLETED (Month-Day-Year) [_____]
3. NUMBER OF JOINTS IN TEST SECTION [_____]
4. NUMBER OF JOINT LOAD TRANSFER RESTORATION LOCATIONS [_____]
5. NUMBER OF DEVICES PER JOINT [_____]
6. LOCATION OF DOWELS OR SHEAR DEVICES (inch)

1st	[_____]
2nd	[_____]
3rd	[_____]
4th	[_____]
5th	[_____]
6th	[_____]
7th	[_____]
8th	[_____]
9th	[_____]
10th	[_____]
11th	[_____]
12th	[_____]
13th	[_____]
14th	[_____]

 (DISTANCE FROM THE OUTER
 LANE EDGE TO THE CENTER
 OF EACH DEVICE)
7. DIAMETER OF RETROFIT DOWEL BARS. (inch) [_____]
8. MATERIAL USED TO BACKFILL SLOT/CORE HOLE

Cement Based Grout... 1	Polymer Concrete... 2
Epoxy Resin Grout... 3	
Other (Specify)... 4	
9. BONDING AGENT USED BETWEEN EXISTING PCC AND BACKFILL MATERIAL

None... 1	Epoxy... 2	Cement/Water... 3
Other (Specify)... 4		

N/A

~~F 110~~ BRE

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 38 LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 2]
---	---

1. LOAD TRANSFER EFFICIENCY BEFORE AND AFTER RESTORATION

POINT DISTANCE (Feet)	LOAD TRANSFER EFFICIENCY (%)			
	BEFORE RESTORATION	APPROACH <u>LEAVE</u>	AFTER RESTORATION	APPROACH <u>LEAVE</u>
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]
[.]	[]	[.]	[]	[.]

2. DATE OF LOAD TRANSFER EFFICIENCY TESTS
BEFORE RESTORATION (Month-Day-Year)
AFTER RESTORATION (Month-Day-Year)

[- - -]

N/A

----- Z 110
REPLACED BRE DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 39 UNDERSEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [O S] * SPS PROJECT CODE [O 9] * TEST SECTION NO. [O 2]
---	--

1. DATE UNDERSEALING BEGAN (Month-Day-Year) _____
2. DATE UNDERSEALING COMPLETED (Month-Day-Year) _____
3. TYPE OF MIXTURE USED IN SUBSEALING
Cement-Loam Top Soil Slurry .. 1 Cement-Limestone Dust Slurry .. 2
Cement-Pozzolan Slurry.. 3 Cement-Fine Sand Slurry... 4
Other (Specify)... 5 _____
4. CEMENT TYPE (SEE CEMENT TYPE CODES, TABLE A.11) _____
5. CEMENT TO SAND RATIO (BY WEIGHT) _____
6. WATER/CEMENT RATIO (BY WEIGHT) _____
7. ADDITIVE TYPE (SEE TABLE A.12) _____
8. AMOUNT OF ADDITIVE (BY PERCENT OF CEMENT WEIGHT) _____
9. FLUIDITY OF PORTLAND CEMENT GROUT
(Flow Cone Method ASTM C939) (SEC) _____
10. CUBE COMPRESSIVE STRENGTH OF PORTLAND CEMENT GROUT, (psi) _____
11. CURING PERIOD FOR PORTLAND CEMENT GROUT (DAYS) _____
12. DETERMINATION OF AREA TO BE UNDERSEALED
Blanket Coverage... 1 Deflection Data... 2
Visual Signs of Pumping. . 3
Other (Specify)... 4 _____

N/A

----- Z 110

EMPLOYEE BRE

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 40 UNDERSEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [<u>O</u> <u>5</u>] * SPS PROJECT CODE [<u>O</u> <u>9</u>] * TEST SECTION NO. [<u>O</u> <u>2</u>]
--	---

1. DEPTH OF UNDERSEALING HOLE FROM TOP OF SLAB (inch) [_____.____]
2. MAXIMUM ALLOWABLE PUMPING PRESSURE
(Gauge at Plant) (psi) [_____.____]
3. MAXIMUM SURGE PRESSURE (psi) [_____.____]
4. SLABS IN TEST SECTION (JOINTED CONCRETE PAVEMENTS ONLY)
Total Number [_____.____] Number Undersealed [_____.____]
5. AVERAGE NUMBER OF HOLES PER SLAB UNDERSEALED
(JCP Only) [_____.____]
6. TYPICAL NUMBER OF UNDERSEALING HOLES NEAR JOINT OR CRACK
(JCP Only) [_____.____]
7. AVERAGE VOLUME OF MATERIAL PUMPED PER HOLE
(Cubic Feet) [_____.____]
8. MONITORING OF LIFT
Deflection Device (e.g., Benkelman Beam) ... 1 Maximum Pumping Time . 2
Appearance of Material in Adjacent Joints or Cracks.. 3
Other (Specify) 4 _____
9. TYPICAL TIME BETWEEN UNDERSEALING AND REOPENING TO TRAFFIC (HOURS) [_____.____]
11. WERE DEFLECTION MEASUREMENTS TAKEN BEFORE AND AFTER UNDERSEALING?
Yes 1 No . 2
BEFORE UNDERSEALING [_____] AFTER UNDERSEALING [_____]
12. TIME OF DAY WHEN DEFLECTION MEASUREMENTS WERE CONDUCTED (HOURS)
STARTING TIME ENDING TIME
BEFORE UNDERSEALING [_____._____._____] [_____._____._____]
AFTER UNDERSEALING [_____._____._____] [_____._____._____]

N/A

----- J. D. EMPLOYEE BRE DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 41 SUBDRAINAGE RETROFIT FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 2]
--	--

1. DATE SUBDRAINAGE PLACEMENT BEGAN (Month-Day-Year) [4 0-0 1-9 6]
2. DATE SUBDRAINAGE PLACEMENT COMPLETED (Month-Day-Year) [1 0-0 9-9 6]
3. TYPE OF DRAINAGE PIPE [6]
 Clay Tile... 1 Concrete Tile. . 2 Vitrified Clay... 3
 Perforated Plastic Bituminous Fiber . 4 Perforated Corrugated Metal.. 5
 Corrugated Plastic Tubing... 6 Drainage Mat... 7
 Other (Specify)... 8 _____
4. DIAMETER OF PIPE (inch) [4.0]
5. DEPTH OF PIPE BELOW TOP OF PAVEMENT SURFACE (inch) [2 4.]
6. HORIZONTAL PLACEMENT OF PIPE FROM OUTER EDGE OF PAVEMENT (inch) [9 0]
7. TYPE OF PRIMARY FILTER USED [3]
 Graded Aggregate 1 Uniformly Graded Aggregate (One Size)... 2
 Woven Fabric . 3 Non-Woven Fabric... 4 Porous PCC... 5
 Porous Bituminous Concrete... 6
 Other (Specify). . 7 _____
8. MAXIMUM PARTICLE SIZE C" PRIMARY FILTER MATERIAL (inch) [1 5]
9. GRADATION OF PRIMARY FILTER MATERIAL

% Passing #4 Sieve [_____]	% Passing #40 Sieve [_____]
% Passing #10 Sieve [_____]	% Passing #100 Sieve [_____]
10. PERMEABILITY OF PRIMARY FILTER MATERIAL (feet/day) [-- -- --]
11. TYPE AND LOCATION OF SECONDARY FILTER MATERIAL [__]
 Fabric Encapsulating the Primary Filter Material 1
 Fabric Encapsulating the Drainage Pipe . 2
 Other (Specify). . 3 _____
12. AVERAGE OUTLET INTERVAL (ft) [2 5 0]
13. PRIMARY PURPOSE OF SUBDRAINAGE INSTALLATION [1]
 Remove Free Water From Pavement Layers 1
 Cut Off Side-Hill/Through Hill Seepage. . 2
 Lower Water Table 3
 Other (Specify) 4 _____

John H. Wenzel EMPLOYEE BRE. DATE 3-10-87.

August 1995

SPS CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u> <u>2</u> <u>9</u> <u>0</u> <u>3</u>]
*1. LANE WIDTH (ft)	[<u>12</u>]	
2. MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)	[<u>1</u>]	
*3. SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section.. 1 Intermittent... 2 None .. 3	[<u>1</u>]	
*4. SUBSURFACE DRAINAGE TYPE No Subsurface Drainage . 1 Longitudinal Drains. 2 Transverse Drains . 3 Drainage Blanket . 4 Well System. . 5 Drainage Blanket with Longitudinal Drains.. 6 Other (Specify) .. 7	[<u>2</u>]	
SHOULDER DATA		INSIDE SHOULDER OUTSIDE SHOULDER
*5. SURFACE TYPE Turf . 1 Granular . . 2 Asphalt Concrete. 3 Concrete .. 4 Surface Treatment 5 Other (Specify) .. 6	[<u>3</u>] [<u>3</u>]	
*6. TOTAL WIDTH (ft)	[<u>26</u>] [<u>10</u>]	
*7. PAVED WIDTH (ft)	[<u>24</u>] [<u>10</u>]	
8. SHOULDER BASE TYPE (CODES-TABLE A 6)	[<u>21</u>] [<u>21</u>]	
9. SURFACE THICKNESS (inch)	[<u>56</u>] [<u>58</u>]	
10. SHOULDER BASE THICKNESS (inch)	[<u>50</u>] [<u>50</u>]	
11. DIAMETER OF LONGITUDINAL DRAINPIPES (inch)	[<u>40</u>]	
12. SPACING OF LATERALS (ft)	[<u>250</u>]	
13. TYPE OF PAVEMENT (See Table A.4 of the SHRP Data Collection Guide)	[<u>28</u>]	

ZNA BRE

2-28-97

SPS-9 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS			* STATE CODE <u>051</u> * SPS PROJECT CODE <u>09</u> * TEST SECTION NO <u>031</u>
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*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (in.)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE (7)	(53)	INCH.	INCH.	INCH.	INCH.
2	(05)	(27)	(60)	(--)	(--)	(--)
3	(03)	(04)	(100)	(--)	(--)	(--)
4	(04)	(01)	(100)	(--)	(--)	(--)
5	(04)	(01)	(40)	(--)	(--)	(--)
6	(01)	(01)	(20)	(--)	(--)	(--)
7	(--)	(--)	(--)	(--)	(--)	(--)
8	(--)	(--)	(--)	(--)	(--)	(--)
9	(--)	(--)	(--)	(--)	(--)	(--)
10	(--)	(--)	(--)	(--)	(--)	(--)
11	(--)	(--)	(--)	(--)	(--)	(--)
12	(--)	(--)	(--)	(--)	(--)	(--)
13	(--)	(--)	(--)	(--)	(--)	(--)
14	(--)	(--)	(--)	(--)	(--)	(--)
15	(--)	(--)	(--)	(--)	(--)	(--)

* This info for the Binder+Surface Layers combined are attached to the original Data Sheets

5 DEPTH BELOW SURFACE TO "RIGID" LAYER (ft)
(Rock, Stone, Dense Shale)

> 20' (—)

NOTES

- Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.
- Layer description codes:
 Overlay 01 Base Layer 05 Porous Friction Course .09
 Seal/Tack Coat..... 02 Subbase Layer ..06 Surface Treatment... 10
 Original Surface..... 03 Subgrade..... 07 Embankment (Fill).....11
 HMA Layer (Subsurface).04 Interlayer..... 08
- The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.
- Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER L. D. Dawson EMPLOYER BRE DATE 5-27-97

ENTERED MAY 28 1997 AS

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	$\frac{O}{0}$ $\frac{S}{9}$ $\frac{O}{0}$ $\frac{S}{5}$
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*1. LAYER NUMBER (FROM SHEET 4)	Level Up [4]		
COMPOSITION OF COARSE AGGREGATE			
*2. Crushed Stone . . 1	Gravel . . 2	Crushed Gravel . . [1]	[6 1]
*3. Crushed Slag . . 4	Manufactured Lightweight . . 5 [] []		
*4. Other (Specify) . . 6	[] []		
COMPOSITION OF FINE AGGREGATE		TYPE	PERCENT
*5. Natural Sand . . 1	Crushed or Manufactured Sand	[2]	[3 9]
*6. (From Crushed Gravel or Stone) . . 2	[] []		
*7. Recycled Concrete . . 3	Other . . 4	[]	[]
(Specify) []			
*8. TYPE OF MINERAL FILLER	[5]		
Stone Dust . . 1	Hydrated Lime . . 2	Portland Cement . . 3	
Fly Ash . . 4	None . . 5		
Other (Specify) . . 6			
BULK SPECIFIC GRAVITIES			
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[2 6 0 8]		
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	[2 5 8 0]		
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[]		
*12. Aggregate Combination (Calculated)	[]		
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[]		

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A 13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14	Coarse	[]	[]
15	Coarse	[]	[]
16	Coarse	[]	[]
17	Coarse and Fine - Combined	[]	[]
18	POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[]

$$9. \frac{(0.25 \times 2.612) + (0.26 \times 2.603)}{(0.25 + 0.26)} = 2.608$$

$$10. \frac{(0.3 \times 2.574) + (0.09 \times 2.595)}{(0.3 + 0.09)} = 2.5795$$

ZAD. RLF

DATE 4-21-97 ..

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>5</u>]
---	--

*1. LAYER NUMBER (FROM SHEET 4)	<i>Binder</i> [<u>5</u>]				
COMPOSITION OF COARSE AGGREGATE					
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel... 3	[<u>1</u>]	[<u>6</u> <u>1</u>]	
*3. Crushed Slag... 4	Manufactured Lightweight... 5			[<u> </u>]	[<u> </u> <u> </u>]
*4. Other (Specify)... 6				[<u> </u>]	[<u> </u> <u> </u>]
COMPOSITION OF FINE AGGREGATE			<u>TYPE</u>	<u>PERCENT</u>	
*5. Natural Sand... 1	Crushed or Manufactured Sand	[<u>2</u>]	[<u>3</u> <u>9</u>]		
*6. (From Crushed Gravel or Stone) ... 2		[<u> </u>]	[<u> </u> <u> </u>]		
*7. Recycled Concrete... 3	Other... 4	[<u> </u>]	[<u> </u> <u> </u>]		
(Specify)					
*8. TYPE OF MINERAL FILLER				[<u>5</u>]	
Stone Dust.. 1	Hydrated Lime... 2	Portland Cement.. 3			
Fly Ash... 4	None .. 5				
Other (Specify). 6					
BULK SPECIFIC GRAVITIES					
*9. Coarse Aggregate (AASHTO T85 or ASTM T127)			[<u>2</u> <u>.6</u> <u>0</u> <u>8</u>]		
*10. Fine Aggregate (AASHTO T84 or ASTM C128)			[<u>2</u> <u>.5</u> <u>8</u> <u>0</u>]		
*11. Mineral Filler (AASHTO T100 or ASTM D854)			[<u> </u> <u> </u> <u> </u>]		
*12. Aggregate Combination (Calculated)			[<u> </u> <u> </u> <u> </u>]		
13. Effective Specific Gravity of Aggregate Combination (Calculated)			[<u> </u> <u> </u> <u> </u>]		
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A.13)					
TYPE OF AGGREGATE		<u>TYPE OF TEST</u>	<u>RESULTS</u>		
14. Coarse		[<u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]		
15. Coarse		[<u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]		
16. Coarse		[<u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]		
17. Coarse and Fine - Combined		[<u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]		
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)			[<u> </u>]		

----- *Zane W. Danzer* EMPLOYED BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
		[0 5] [0 9] [0 1]

*1. LAYER NUMBER (FROM SHEET 4)	Surface [6]	
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel.. [1] [40]
*3. Crushed Slag... 4	Manufactured Lightweight .. 5	[] [— — —]
*4. Other (Specify) ... 6		[] [— — —.]
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand... 1	Crushed or Manufactured Sand	[1] [— — 5]
*6. (From Crushed Gravel or Stone) ... 2		[2] [5 5]
*7. Recycled Concrete.. 3	Other... 4	[] [— — —]
(Specify) _____		
*8. TYPE OF MINERAL FILLER		(5)
Stone Dust.. 1	Hydrated Lime .. 2	Portland Cement... 3
Fly Ash.. 4	None .. 5	
Other (Specify) .. 6		
BULK SPECIFIC GRAVITIES		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)		[2 6 0 3]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)		[2 5 8 4]
*11. Mineral Filler (AASHTO T100 or ASTM D854)		[— — — —]
*12. Aggregate Combination (Calculated)		[— — — —]
13 Effective Specific Gravity of Aggregate Combination (Calculated)		[— — — —]
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A 13)		
TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14 Coarse	[— —]	[— — — — — 1]
15 Coarse	[— —]	[— — — — — 1]
16. Coarse	[— —]	[— — — — — 1]
17. Coarse and Fine - Combined	[— —]	[— — — — — 1]
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[— — 1]
10	$\frac{(0.25 \times 2.574) + (0.05 \times 2.534) + (0.1 \times 2.603) + (0.2 \times 2.598)}{.6} = 2.5835$	

----- *Z. Duman* PLOE BRE DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[0 5] [0 9] [2 3]

*1. LAYER NUMBER (FROM SHEET 4)	[4]
COMPOSITION OF COARSE AGGREGATE	
*2. Crushed Stone 1 Gravel. . 2 Crushed Gravel.	[] [6 1]
*3. Crushed Slag... 4 Manufactured Lightweight... 5	[] [] []
*4. Other (Specify)... 6	[] [] []
COMPOSITION OF FINE AGGREGATE	
*5. Natural Sand... 1 Crushed or Manufactured Sand	[] [3 9]
*6. (From Crushed Gravel or Stone)... 2	[] [] []
*7. Recycled Concrete... 3 Other. . 4 (Specify)	[] [] []
*8. TYPE OF MINERAL FILLER	[5]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement.	[] 3
Fly Ash.. 4 None .. 5	[] []
Other (Specify)... 6	[]
BULK SPECIFIC GRAVITIES:	
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[2 6 0 8]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	[2 5 8 0]
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[] [] []
*12. Aggregate Combination (Calculated)	[] [] []
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[] [] []
14. Angularity	One Face Two Faces
Coarse (% Fractured Faces)	[] []
Fine (% Voids)	[] []
15. Soundness	Test Type Result
Coarse (Type of Test From A 13, % loss)	[0 3] [] []
Fine (Type of Test From A.13, % loss)	[0 3] [] []
16. Toughness of Coarse Aggregate (% loss LAR)	[0 1] [] []
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[0 9] [] []
18. Clay Content (Sand Equivalent, ratio)	[] []
19. Thin, Elongated Particles (%)	[] []

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4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	$\frac{0}{0}$ $\frac{5}{9}$ $\frac{0}{2}$ $\frac{3}{3}$
---	--	--

*1. LAYER NUMBER (FROM SHEET 4)	[5]
COMPOSITION OF COARSE AGGREGATE	
*2. Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[] [] []
*3. Crushed Slag... 4 Manufactured Lightweight... 5	[] []
*4. Other (Specify)... 6	[] []
COMPOSITION OF FINE AGGREGATE	
*5. Natural Sand... 1 Crushed or Manufactured Sand	[2] []
*6. (From Crushed Gravel or Stone)... 2	[] []
*7. Recycled Concrete... 3 Other... 4 (Specify)	[] []
TYPE OF MINERAL FILLER	
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3	[]
Fly Ash... 4 None... 5	[]
Other (Specify)... 6	[]
BULK SPECIFIC GRAVITIES.	
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[2 60 8]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	[2 52 0]
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[]
*12. Aggregate Combination (Calculated)	[]
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[]
14. Angularity	
Coarse (% Fractured Faces)	One Face [] Two Faces []
Fine (% Voids)	[] []
15. Soundness	
Coarse (Type of Test From A.13, % loss)	Test Type [0 3] Result []
Fine (Type of Test From A.13, % loss)	[0 3] []
16. Toughness of Coarse Aggregate (% loss LAR)	[0 1] []
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[0 9] []
18. Clay Content (Sand Equivalent, ratio)	[]
19. Thin, Elongated Particles (%)	[]

John W. Dunham BRE

DATE 4-21-97

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [2 3]
---	--

*1. LAYER NUMBER (FROM SHEET 4)	[6]			
COMPOSITION OF COARSE AGGREGATE				
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel... 3	[1]	TYPE PERCENT
*3. Crushed Slag ... 4	Manufactured Lightweight... 5			[1] [2 0]
*4. Other (Specify) ... 6				[1] [2 0]
COMPOSITION OF FINE AGGREGATE				TYPE PERCENT
*5. Natural Sand. 1	Crushed or Manufactured Sand	[1]	[2 5]	
*6. (From Crushed Gravel or Stone) ... 2		[2]	[5 5]	
*7. Recycled Concrete.. 3	Other. 4	[1]	[2 2]	
(Specify)				
*8. TYPE OF MINERAL FILLER				[5]
Stone Dust .. 1	Hydrated Lime. . 2	Portland Cement... 3		
Fly Ash.. 4	Ncne ... 5			
Other (Specify) .. 6				
BULK SPECIFIC GRAVITIES.				
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)				[2 6 0 3]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)				[2 5 8 4]
*11. Mineral Filler (AASHTO T100 or ASTM D854)				[2 2 2 2]
*12. Aggregate Combination (Calculated)				[2 2 2 2]
13. Effective Specific Gravity of Aggregate Combination (Calculated)				[2 2 2 2]
14. Angularity				
Coarse (% Fractured Faces)			One Face	[2 2 2]
Fine (% Voids)			Two Faces	[2 2 2]
15. Soundness				
Coarse (Type of Test From A.13, % loss)			Test Type	[0 3]
Fine (Type of Test From A.13, % loss)			Result	[2 2 2]
16. Toughness of Coarse Aggregate (% loss LAR)				[0 1]
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)				[0 9]
18. Clay Content (Sand Equivalent, ratio)				[2 2]
19. Thin, Elongated Particles (%)				[2 2]

... Zane W. Dunner BRE

Date 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> 0 5 0 9 0 3 </div>
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- *1. LAYER NUMBER (FROM SHEET 4) PG 58-22 Level Up [4]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) PG 58-22 []
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [0 7]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1.028]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [- - - - -]
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [- - - - . - -]
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g, 5 sec.) [- - - .]
- ASPHALT MODIFIERS (SEE TYPE CODE, A.15)
- | | TYPE | QUANTITY (%) |
|---|-----------|--------------|
| 8. MODIFIER #1 | [- -] | [- -] |
| 9. MODIFIER #2
(IF OTHER, SPECIFY) | [- -] | [- -] |
| 10. DUCTILITY AT 77°F (cm)
(AASHTO T51) | [- - -] | |
| 11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) | [- - -] | |
| 12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°F (CM/MIN) | [- - -] | |
| 13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
(200 g, 60 sec.) | [- - -] | |
| 14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) | [- - -] | |

NOTE. If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

Z 210

BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES		* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>0</u> <u>3</u>]
--	--	---

- *1. LAYER NUMBER (FROM SHEET 4) Binder [5]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16)
(IF OTHER, SPECIFY) P.6-58-22 []
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [0 7]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1 0 2 8]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) []
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) []
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g., 5 sec.) []
- ASPHALT MODIFIERS (SEE TYPE CODE, A.15) TYPE QUANTITY (%)
8. MODIFIER #1 [] []
9. MODIFIER #2
(IF OTHER, SPECIFY) [] []
10. DUCTILITY AT 77°F (cm)
(AASHTO T51) []
11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) []
12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°F (CM/MIN) []
13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm)
(200 g., 60 sec.) []
14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) []

NOTE If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

----- J.W.D. BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO	$\frac{0}{0}$ <u>5</u> $\frac{0}{0}$ <u>9</u> $\frac{0}{0}$ <u>3</u>
--	---	--

*1. LAYER NUMBER (FROM SHEET 4)	<u>Surface</u>	[<u>6</u>]
*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) (IF OTHER, SPECIFY)	<u>P. 6. 58-22</u>	
*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) (IF OTHER, SPECIFY)	[<u>0 7</u>]	
4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228)	[<u>1.028</u>]	
<u>GENERAL ASPHALT CEMENT PROPERTIES</u> (If available from supplier)		
5. VISCOSITY OF ASPHALT AT 140°F (Poises) (AASHTO T202)	[<u> </u>]	
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes) (AASHTO T202)	[<u> </u>]	
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm) (100 g, 5 sec.)	[<u> </u> .]	
<u>ASPHALT MODIFIERS</u> (SEE TYPE CODE, A.15)		
8. MODIFIER #1	<u>TYPE</u>	[<u> </u>]
9. MODIFIER #2 (IF OTHER, SPECIFY)	<u>TYPE</u>	[<u> </u>]
10. DUCTILITY AT 77°F (cm) (AASHTO T51)	[<u> </u>]	
11. DUCTILITY AT 39.2°F (cm) (AASHTO T51)	[<u> </u>]	
12. TEST RATE FOR DUCTILITY MEASUREMENT AT 39.2°F (CM/MIN)	[<u> </u>]	
13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm) (200 g, 60 sec.)	[<u> </u> .]	
14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F)	[<u> </u> .]	

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

K-210 BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>3</u>]
--	--	---

- *1. LAYER NUMBER (FROM SHEET 4) Level Up [4]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [58] - [22]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [07]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1.028]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(Tank Asphalt) (AASHTO TP5) [279] [573]
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(RTFO Asphalt) (AASHTO TP5) [539] [573]
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(PAV Asphalt) (AASHTO TP5) amended 7/7/97 [5453] [573]
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa,RATIO)
(PAV Asphalt) (AASHTO TP1) [157] [0356]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa,RATIO)
(PAV Asphalt) (AASHTO TP3) [—] [—]

ZNR .. RRE .. 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [0 9] [0 3]
--	--	-------------------------

- *1. LAYER NUMBER (FROM SHEET 4) Binders [5]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [5 8] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [0 7]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1 0 2 8]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(Tank Asphalt) (AASHTO TP5) [1 2 7 9] [__]
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(RTFO Asphalt) (AASHTO TP5) [1 5 3 9] [__]
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(PAV Asphalt) (AASHTO TP5) Amended 3-17-97 [1 5 4 5 3] [__]
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa,RATIO)
(PAV Asphalt) (AASHTO TP1) [1 5 7] [0 3 5 6]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kpa,RATIO)
(PAV Asphalt) (AASHTO TP3) [__] [__]

J. H. Dunn BRE DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[0 5]
	[0 9]

- *1. LAYER NUMBER (FROM SHEET 4) Surface [6

*2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [5 8] - [2 2)

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) [0 7)

4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T229) [1.0 2 8)

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(Tank Asphalt) (AASHTO TP5) [2 7 9] [)

6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(RTFO Asphalt) (AASHTO TP5) [5 .3 9] [)

7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(PAV Asphalt) (AASHTO TP5) *Amended 3-17-97* [5 4 5 3] [)

8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa, RATIO)
(PAV Asphalt) (AASHTO TP1) [1 5 7] [0 3 5 6)

9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa, RATIO)
(PAV Asphalt) (AASHTO TP3) [] [)

LHJ BRE

DATE 4-21-97

March 1997

SPS-9 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES - DESIGN	* STATE CODE [05] * SPS PROJECT CODE [09] * TEST SECTION NO. [03]
---	---

- *1. LAYER NUMBER (FROM SHEET 4) (6)
- *2. TYPE OF MIX DESIGN
Marshall... 1 HVEEM... 2 SUPERPAVE... 3
Other (Specify) ... 4
3. MAXIMUM SPECIFIC GRAVITY (NO AIR Voids) (AASHTO T209 OR ASTM D2041) (2 4 4 .5)
4. BULK SPECIFIC GRAVITY (ASTM D1138) (2 2 9 .8)
5. ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172) (5 1 . .)
6. AIR Voids (PERCENT) (4 .2)
7. Voids IN MINERAL AGGREGATE (PERCENT) (1 5 .6)
8. EFFECTIVE ASPHALT CONTENT (PERCENT) (. . . .)
9. MARSHALL STABILITY (lb) (AASHTO T245 OR ASTM D1559) (.)
10. NUMBER OF BLOWS (. . .)
11. MARSHALL FLOW (0.01 in)
(AASHTO T245 OR ASTM D1559) (. . .)
12. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) (. . . .)
13. HVEEM COHESIONmeter VALUE (GRAMS/25 MM OF WIDTH)
(AASHTO T246 OR ASTM 1561) (.)
14. SUPERPAVE GYRATORY COMPACTION N_{optimal} (1 6 9)
15. ASPHALT GRADE (SET ASPHALT CODE SHEET, TABLE A.16) (. . .)
16. SUPERPAVE ASPHALT BINDER GRADE (2 5 8 - 2 2)

ENCLILED MAY 28 1997 AS

PREPARED Mark H. Dunn EMPLOYER BRE DATE 5-27-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES	* STATE CODE SPS PROJECT CODE TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>3</u>]

P.S.58-22

- *1. LAYER NUMBER (FROM SHEET 4) *Level Up* [4]
- *2. TYPE OF SAMPLES
SAMPLES COMPACTED IN LABORATORY.. 1
SAMPLES TAKEN FROM TEST SECTION. 2
- *3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) [2.421]
- BULK SPECIFIC GRAVITY (ASTM D1188)
- *4. MEAN [2.320] NUMBER OF TESTS [5]
5. MINIMUM [2.231] MAXIMUM [2.360]
6. STD. DEV. [0.029]
- ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)
- *7. MEAN [51] NUMBER OF SAMPLES [4]
8. MINIMUM [4.9] MAXIMUM [53]
9. STD. DEV. [02]
- PERCENT AIR Voids
- *10. MEAN [38] NUMBER OF SAMPLES [6]
11. MINIMUM [31] MAXIMUM [45]
12. STD. DEV. [27]
- *13. VOIDS IN MINERAL AGGREGATE (PERCENT) [157]
- *14. EFFECTIVE ASPHALT CONTENT (PERCENT) []
- *15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)
4°C 20°C 40°C
[] [] [] [] [] []
- *16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)
4°C 20°C 40°C
[] [] [] [] [] []
- *17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)
4°C 20°C 40°C
[] [] [] [] [] []
- *18. SIMPLE SHEAR
Axial Stress, kPa [] [] []
Shear Stress, kPa [] [] []
Shear Strain mm/mm [] [] []
- *19. TYPE OF ANTISTRIPPING AGENT USED *None Used* []
(SEE TYPE CODES, TABLE A 21)
OTHER (SPECIFY) _____
- *20. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE []
- *21. (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight) [.]

BRE

DATE 4-22-97

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
		[0 5] [0 9] [2 3]

- *1. LAYER NUMBER (FROM SHEET 4) P.G.58-22 Binder [5]
- *2. TYPE OF SAMPLES
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2
- *3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) [2.421]
- BULK SPECIFIC GRAVITY (ASTM D1188)
- *4. MEAN [2 3 2 0] NUMBER OF TESTS [5]
5. MINIMUM [2.2 8 1]
6. STD. DEV [2 3 6 0]
- MAXIMUM [2 3 6 0]
STD. DEV [2 0 2 9]
- ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)
- *7. MEAN [0 5 1] NUMBER OF SAMPLES [4]
8. MINIMUM [4.9]
9. STD. DEV [0 2]
- PERCENT AIR Voids
- *10. MEAN [3 8] NUMBER OF SAMPLES [6]
11. MINIMUM [3.1]
12. STD. DEV [0 2]
- MAXIMUM [4 3]
- *13. VOIDS IN MINERAL AGGREGATE (PERCENT) [1 5 7]
- *14. EFFECTIVE ASPHALT CONTENT (PERCENT) [— — —]
- *15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)
4°C [— — —] 20°C [— — —] 40°C [— — —]
[— — —] [— — —] [— — —] [— — —]
- *16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)
4°C [— — —] 20°C [— — —] 40°C [— — —]
[— — —] [— — —] [— — —] [— — —]
- *17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)
4°C [— — —] 20°C [— — —] 40°C [— — —]
[— — —] [— — —] [— — —] [— — —]
- *18. SIMPLE SHEAR
Axial Stress, kPa [— — —] 4°C [— — —] 20°C [— — —] 40°C [— — —]
Shear Stress, kPa [— — —] [— — —] [— — —]
Shear Strain mm/mm [— — —] [— — —] [— — —]
- *19. TYPE OF ANTISTRIPPING AGENT USED
(SEE TYPE CODES, TABLE A 21) None Used [— —]
OTHER (SPECIFY) _____
- *20. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [—]
- *21. (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight.) [— — —]


EMPLOYEE

BRE

DATE 8-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>2</u> <u>3</u>]
--	---

P.G. 58-22

- *1. LAYER NUMBER (FROM SHEET 4) surface [6]
- *2. TYPE OF SAMPLES
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2
- *3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) [2.442]
- BULK SPECIFIC GRAVITY (ASTM D1188)
- *4. MEAN [2.298] NUMBER OF TESTS [5]
5. MINIMUM [2.268]
6. STD. DEV [0.027]
- ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)
- *7. MEAN [5.0] NUMBER OF SAMPLES [4]
8. MINIMUM [4.9]
9. STD. DEV [0.1]
- PERCENT AIR Voids
- *10. MEAN [4.5] NUMBER OF SAMPLES [8]
11. MINIMUM [4.3]
12. STD. DEV [0.2]
- *13. VOIDS IN MINERAL AGGREGATE (PERCENT) [163]
- *14. EFFECTIVE ASPHALT CONTENT (PERCENT) [—]
- *15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)
 4°C 20°C 40°C
[—] [—] [—] [—] [—] [—]
- *16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)
 4°C 20°C 40°C
[—] [—] [—] [—] [—] [—]
- *17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)
 4°C 20°C 40°C
[—] [—] [—] [—] [—] [—]
- *18. SIMPLE SHEAR
Axial Stress, kPa 4°C 20°C 40°C
Shear Stress, kPa [—] [—] [—]
Shear Strain mm/mm [—] [—] [—]
- *19. TYPE OF ANTISTRIPPING AGENT USED None Used [—]
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) _____
- *20. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [—]
- *21. (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight.) [—]


EMPLOYED BRE DATE 4-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 11 CUT-FILL SECTION LOCATIONS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>3</u>]

ORDER	*1 CUT-FILL TYPE ¹	TEST SECTION STATION NUMBER	
		*2 START	*3 END
1	<u>1</u> <u>0</u> <u>0</u>	0 + 0 0	— — — 5 + 0 0
2	— — — — —	+ — —	— — — — + — —
3	— — — — —	+ — —	— — — — + — —
4	— — — — —	+ — —	— — — — + — —
5	— — — — —	+ — —	— — — — + — —
6	— — — — —	+ — —	— — — — + — —
7	— — — — —	+ — —	— — — — + — —
8	— — — — —	+ — —	— — — — + — —
9	— — — — —	+ — —	— — — — + — —
10	— — — — —	+ — —	— — — — + — —

NOTES. 1. Indicate the type of subgrade construction with one of the following.

Cut... 1 Fill 2

2 Use one line for each cut or fill zone present within the section boundaries

100-1000

BRF

DATE 8/7/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 3]
--	---

1. DATE SURFACE PREPARATION BEGAN (Month-Day-Year) [1 2 - 0 7 - 9 6]
2. DATE SURFACE PREPARATION COMPLETED (Month-Day-Year) [1 2 - 0 7 - 9 6]
3. SURFACE PREPARATION PRIOR TO PLACEMENT OF OVERLAY
None.... 1 Broomed ... 2 Broomed + Asphaltic Tack Coat. 3
Asphaltic Tack Coat (only)... 4 [3]
4. TACK COAT
Material Type None... 1 SS-1.... 2 SS-1H.... 3 CRS-1.... 4
CRS-2.... 5 CMS-2.... 6 CMS-2H.. 7 CSS-1.... 8 CSS-1H... 9
Other.... 10 (Specify) [0 2]
5. TACK COAT DILUTION
(Percent)
Mixing Rate Parts Diluent [__ __] TO Parts Asphalt [__ __] [5 0]
6. TACK COAT APPLICATION RATE (Gal/Sq. Yd.) [0 0 3]
7. ASPHALT CONCRETE PLANT AND HAUL

Plant Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers		
Plant 1	[2] E.C. Rowlett	[2 3]	[5 5]	[4] [5]	[6]	
Plant 2	[]	[]	[]	[]	[]	
Plant 3	[]	[]	[]	[]	[]	
Plant Type.	Batch. . 1 Drum Mix. . 2 Other		3 Specify			
8. MANUFACTURER OF ASPHALT CONCRETE PAVER [RIAW-Knox]
9. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER [PF-5510]
10. SINGLE PASS LAYDOWN WIDTH (Feet) [13 0]

11. Layer No.	12. Material Type Classification Code	13 Nominal Lift Placement Thickness				14 Tack Coat Between Lifts? (Y/N)	15 Transverse Joint Station
		1 st Lift	2 nd Lift	3 rd Lift	4 th Lift		
[4]	[0 / 1]	[1.0]	[1.0]	[1.0]	[1.0]	[Y]	[+]
[5]	[0 / 1]	[4.0]	[1.0]	[1.0]	[1.0]	[Y]	[-]
[6]	[0 / 1]	[2.0]	[1.0]	[1.0]	[1.0]	[Y]	[-]

16. LOCATION OF LONGITUDINAL SURFACE JOINT
Between lanes... 1 Within lane 2 (specify offset from O/S feet) [1] [1 2 0]
17. SIGNIFICANT EVENTS DURING CONSTRUCTION(disruptions, rain, equip problems, etc)

Law H. Dunn Employee BRF

DATE 3/7/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
		[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>3</u>]

*1 DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 0-0 8-9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 0-0 8-9 6]
 *3. LAYER NUMBER [4]
 *4. MIXING TEMPERATURE (°F) [3 1 0]
 5. LAYDOWN TEMPERATURES (°F)
 Mean..... [2 8 5] Number of Tests [__ __]
 Minimum..... [u2 8 5] Maximum.... [u2 8 5]
 Standard Deviation.. [__ __ __]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mpn)
6	A	Steel-Whl Tandem	---	---	---	---	---
7	B	Steel-Whl Tandem	---	---	---	---	---
8	C	Steel-Whl Tandem	---	---	---	---	---
9	D	Steel-Whl Tandem	---	---	---	---	---
10	E	Pneumatic-Tired	---	---	---	---	---
11	F	Pneumatic-Tired	---	---	---	---	---
12	G	Pneumatic-Tired	---	---	---	---	---
13	H	Pneumatic-Tired	---	---	---	---	---
14	I	Single-Drum Vibr	---	---	---	---	---
15	J	Single-Drum Vibr	---	---	---	---	---
16	K	Single-Drum Vibr	---	---	---	---	---
17	L	Single-Drum Vibr	---	---	---	---	---
18	M	Double-Drum Vibr	[<u>1</u> <u>1</u> <u>8</u>]	---	[<u>3</u> <u>0</u> <u>0</u> <u>0</u>]	[<u>0</u> <u>2</u> <u>7</u>]	---
19	N	Double-Drum Vibr	---	---	---	---	---
20	O	Double-Drum Vibr	---	---	---	---	---
21	P	Double-Drum Vibr	---	---	---	---	---
22	Q	Other	Combination steel (Steel) drum and rubber tires				

	COMPACTON DATA	First Lift	Second Lift	Third Lift	Fourth Lift
23	BREAKDOWN Roller Code (A-Q)	<u>M</u>	—	—	—
24	Coverages	<u>—</u> <u>4</u>	—	—	—
25	INTERMEDIATE Roller Code (A-Q)	—	—	—	—
26	Coverages	<u>—</u> <u>—</u>	—	—	—
27	FINAL Roller Code (A-Q)	<u>Q</u>	—	—	—
28	Coverages	<u>—</u> <u>2</u>	—	—	—
29	Air Temperature (°F)	<u>—</u> <u>6</u> <u>5</u>	—	—	—
30	Compacted Thickness (in)	<u>—</u> <u>1</u> <u>0</u>	—	—	—
31	Curing Period (Days)	<u>—</u> <u>Q</u>	—	—	—

Surface mix was placed 2 months after the binder mix
 Road was open to traffic approximately 2 months after laying
 the surface mix.

 BRE

Date 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA		* STATE CODE SPS PROJECT CODE TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>2</u> <u>9</u>] [<u>0</u> <u>3</u>]

- *1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *3. LAYER NUMBER [5]
 *4. MIXING TEMPERATURE (°F) [3 1 0]
 5. LAYDOWN TEMPERATURES (°F)
 Mean..... [2 8 5] Number of Tests [1]
 Minimum..... [2 8 5] Maximum..... [2 8 5]
 Standard Deviation.. [0.0]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mpa)
5	A	Steel-Whl Tandem	— — —				
7	B	Steel-Whl Tandem	— — —				
8	C	Steel-Whl Tandem	— — —				
9	D	Steel-Whl Tandem	— — —				
10	E	Pneumatic-Tired	— — —				
11	F	Pneumatic-Tired	— — —				
12	G	Pneumatic-Tired	— — —				
13	H	Pneumatic-Tired	— — —				
14	I	Single-Drum Vibr	— — —				
15	J	Single-Drum Vibr	— — —				
16	K	Single-Drum Vibr	— — —				
17	L	Single-Drum Vibr	— — —				
18	M	Double-Drum Vibr	<u>1</u> <u>1</u> . <u>8</u>		<u>3</u> <u>0</u> <u>0</u> <u>0</u>	<u>0</u> <u>2</u> <u>7</u>	
19	N	Double-Drum Vibr	— — —				
20	O	Double-Drum Vibr	— — —				
21	P	Double-Drum Vibr.	— — —				
22	Q	Other	Combination steel (static) drum and rubber tires				

	COMPACTIION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
23	BREAKDOWN Roller Code (A-Q)	<u>M</u>	—	—	—
24	Coverages	<u>—</u> <u>4</u>	—	—	—
25	INTERMEDIATE Roller Code (A-Q)	—	—	—	—
26	Coverages	<u>—</u> <u>—</u>	—	—	—
27	FINAL Roller Code (A-Q)	<u>Q</u>	—	—	—
28	Coverages	<u>—</u> <u>2</u>	—	—	—
29	Air Temperature (°F)	<u>6</u> <u>5</u>	—	—	—
30	Compacted Thickness (in)	<u>4</u> <u>0</u>	—	—	—
31	Curing Period (Days)	<u>6</u> <u>0</u>	—	—	—

Surface mix was placed 2 months after the Binder mix
 Road was open to traffic approximately 2 months after laying
 the surface mix.

J. M. D. BRE

DATE 3-7-97

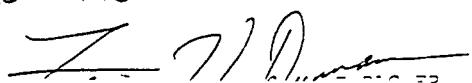
SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [2 3]
---	--	--	---

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 2 - 0 9 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 2 - 0 9 - 9 6]
 *3. LAYER NUMBER [6]
 *4. MIXING TEMPERATURE (°F) [3 1 0]
 5. LAYDOWN TEMPERATURES (°F)
 Mean..... [2 8 5] Number of Tests [1]
 Minimum..... [2 8 5] Maximum... [2 8 5]
 Standard Deviation... [2 0]

ROLLER DATA

Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min.)	Amplitude (in)	Speed (mpm)
6	A Steel-Whl Tandem	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
7	B Steel-Whl Tandem	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
8	C Steel-Whl Tandem	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
9	D Steel-Whl Tandem	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
10	E Pneumatic-Tired	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
11	F Pneumatic-Tired	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
12	G Pneumatic-Tired	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
13	H Pneumatic-Tired	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
14	I Single-Drum Vibr.	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
15	J Single-Drum Vibr	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
16	K Single-Drum Vibr	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
17	L Single-Drum Vibr	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
18	M Double-Drum Vibr	11 8	[1 2 - 0 9 - 9 6]	3 0 0 0	0 2 7	— — —
19	N Double-Drum Vibr	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
20	O Double-Drum Vibr	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
21	P Double-Drum Vibr.	— — —	[1 2 - 0 9 - 9 6]	— — —	— — —	— — —
22	Q Other	Combination steel (Steel) drum and Rubber Tires				
COMPACTOR DATA		First Lift	Second Lift	Third Lift	Fourth Lift	
23	BREAKDOWN Roller Code (A-Q) Coverages	— 4	— —	— —	— —	— —
24	INTERMEDIATE Roller Code (A-Q) Coverages	— —	— —	— —	— —	— —
25	FINAL Roller Code (A-Q) Coverages	— 2	— —	— —	— —	— —
29	Air Temperature (°F)	— 6 5	— — —	— — —	— — —	— — —
30	Compacted Thickness (in)	— 2 0	— — —	— — —	— — —	— — —
31	Curing Period (Days)	— 6 0	— — —	— — —	— — —	— — —

Surface Mix was placed 2 months after the Binder Mix
 Road was open to traffic approximately 2 months after laying
 the surface mix.

 BRE

DATE 3-7-77

August 1995

SPS-9A CONSTRUCTION DATA SHEET 14 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 3]
--	--	---

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	Surface Course	Surface Friction Layer
Measurement Method (A, B, C):	A	—
Number of Measurements	12	—
Average (pcf)	136.1	—
Maximum (pcf)	150.1	—
Minimum (pcf)	131.9	—
Standard Deviation (pcf)	— 5.0	—
Layer Number	6	—

(Wet Density)

1/A

*Measurement Method Backscatter. A Direct Transmission. . B Air Gap C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER F24

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION []

6. PROFILOGRAPH MEASUREMENTS

KJ LAW

Profilograph Type California .. 1 Rainhart... 2 Other .. 3 [3]

Profile Index (in/mile) []

Interpretation Method Manual 1 Mechanical . 2 Computer 3 [3]

Height of Blanking Band (in) []

Cutoff Height (in) []

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [NO]

ZHD

EMPLOYEE

BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>3</u>]

LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
0+0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- <u>7</u> - - - - - - - - - - - - -	- <u>6</u> <u>4</u> - <u>6</u> <u>2</u> - <u>5</u> <u>9</u> - <u>6</u> <u>1</u> - <u>6</u> <u>2</u>	- <u>7</u> - - - - - - - - - - - - -
0+5 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - -	- <u>6</u> <u>5</u> - <u>6</u> <u>5</u> - <u>6</u> <u>1</u> - <u>6</u> <u>2</u> - <u>6</u> <u>4</u>	- - - - - - - - - - - - - - -
1-0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - -	- <u>6</u> <u>2</u> - <u>5</u> <u>9</u> - <u>5</u> <u>.8</u> - <u>5</u> <u>9</u> - <u>5</u> <u>9</u>	- - - - - - - - - - - - - - -
1-5 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - -	- <u>6</u> <u>3</u> - <u>6</u> <u>0</u> - <u>6</u> <u>0</u> - <u>6</u> <u>2</u> - <u>5</u> <u>7</u>	- - - - - - - - - - - - - - -
2-0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - -	- <u>6</u> <u>5</u> - <u>6</u> <u>3</u> - <u>6</u> <u>1</u> - <u>5</u> <u>9</u> - <u>6</u> <u>1</u>	- - - - - - - - - - - - - - -
2-5 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - -	- <u>6</u> <u>9</u> - <u>6</u> <u>5</u> - <u>6</u> <u>2</u> - <u>6</u> <u>4</u> - <u>6</u> <u>4</u>	- - - - - - - - - - - - - - -
3-0 0	- <u>0</u> - <u>3</u> <u>6</u> - <u>7</u> <u>2</u> - <u>1</u> <u>0</u> <u>8</u> - <u>1</u> <u>4</u> <u>4</u>	- - - - - - - - - - - - - - -	- <u>6</u> <u>3</u> - <u>6</u> <u>2</u> - <u>6</u> <u>0</u> - <u>6</u> <u>3</u> - <u>6</u> <u>5</u>	- - - - - - - - - - - - - - -
LAYER NUMBER-		— —	0 6	— —

1 from Sheet 4

Z-7/0 BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[05] [09] [03]
--	--	----------------------

LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
3+5 0	0 3 6 7 2 5 8 4 4	7 7 7 7 7	5 8 5 8 5 8 5 8 6 0	7 7 7 7 7
4+0 0	0 3 6 7 2 5 8 4 4	7 7 7 7 7	6 2 6 1 6 1 6 1 6 4	7 7 7 7 7
4+5 0	0 3 6 7 2 5 8 4 4	7 7 7 7 7	6 2 6 2 6 2 6 6 7 0	7 7 7 7 7
5-0 0	0 3 6 7 2 5 8 4 4	7 7 7 7 7	6 7 6 4 6 4 6 6 6 2	7 7 7 7 7
-+ -	---	---	---	---
- - -	---	---	---	---
- - -	---	---	---	---
LAYER NUMBER:	---	0 6	---	---

1 from Sheet 4

K. H. Danner BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 16 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [2 9] [2 3]
---	--	-------------------------------

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

Vibrroller (Hypac C766 B) - 2 pass vibratory → 2 passes static
then
pneumatic - 2 passes
(4 wheels)

Used a Lee Boy 400 (min. roller) on the shoulders.

RE

Date 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 20 PRE-OVERLAY SURFACE PREPARATION SKETCH	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>5</u>]
--	--	---

No sketch available

PREPARED James W. Moore EMPLOYER BRE DATE 3-10-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 24 ASPHALT PATCHING OF PCC PAVEMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO	[O 51] [Q 9] [O 3]
---	---	--------------------------

1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) [____-____-____]
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) [____-____-____]
3. PRIMARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____ [____]
4. SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____ [____]
5. SUMMARY OF PATCHING

	NUMBER	TOTAL AREA (SQ. ft)
Surface Only	[____]	[____-____-____]
Surface and partial base replacement	[____]	[____-____-____]
Full depth	[____]	[____-____-____]
6. METHOD USED TO DETERMINE LOCATION AND SIZES OF PATCHES

	1 Coring	2 Visual	3 Other .	4	
Deflection....	1	2	3	4	[____]
(specify)					
7. METHOD USED TO FORM PATCH BOUNDARIES

	1 Saw Cut .	2 Air Hammer	3	Cold Milling	4	
None .	1	2	3	4	5	[____]
Other .	5 (Specify)					
8. COMPACTION EQUIPMENT

	1 Pneumatic roller .	2 Vibratory Plate Compactor	3		
None .	1	2	3	4	[____]
Vibratory Roller.	4	5	6	7	
Steel Wheel Roller					
Hand Tools .	7	8 (Specify)			
9. PATCH MATERIAL

	1 Plant Mix with Cutback Asphalt, Cold Laid	2
Hot Mix Asphalt Concrete	1	2
Plant Mix with Emulsified Asphalt, Cold Laid	3	4
Road Mix with Emulsified Asphalt	5	6
(Specify)	6	7
10. MINIMUM TIME FROM MATERIAL PLACEMENT TO OPENING TO TRAFFIC (Hrs) [____]
11. MAXIMUM MATERIAL TEMPERATURE FOR TRAFFIC OPENING (if used) (°F) [____]
12. AIR TEMPERATURE DURING PLACEMENT OPERATIONS

	High Temperature (°F)	
High Temperature (°F)		[____]
Low Temperature (°F)		[____]
13. PREDOMINATE ROAD SURFACE MOISTURE CONDITION DURING PLACEMENT OPERATIONS [____]

	1 Dry	2 Moist	3 Wet.	
Dry	1	2	3	

Did not do any patching - Total Rubblization

PREPARED Steve W. Johnson EMPLOYER BRE DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 25
PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES

* STATE CODE	[0 5]
* SPS PROJECT CODE	[0 9]
* TEST SECTION NO	[0 3]

- | | |
|--|---------------|
| 1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) | [- - - -] |
| 2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) | [- - - -] |
| 3. PRIMARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____ | [- - - -] |
| 4. SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____ | [- - - -] |
| 5. PATCHES
Total Square (ft) | [- - - -] |
| Number | [- - - -] |
| Average Depth, (inch) | [- - - -] |
| 6. METHOD USED FOR PATCH BOUNDARY DETERMINATION
Visual.. 1 Ball Peen Hammer, Steel Rod, Chain or Equivalent.. 2
Delam-Tech 3 Other (Specify) . 4 | [- - - -] |
| 7. METHOD USED TO CUT BOUNDARIES
Diamond Blade Saw. 1 Carbide Blade Saw. 2 None 3 Air Hammer.
Cold Milling 5 Other (Specify) 6 | [- - - -] |
| 8. METHOD USED TO BREAK UP AND/OR REMOVE DETERIORATED CONCRETE
Jackhammer 1 Cold Milling 2
Other (Specify) .. 3 | [- - - -] |
| 9. METHOD FOR FINAL CLEANING OF PATCH AREA
None 1 Sandblasting 2 Waterblasting . 3
Other (Specify) . 4 | [- - - -] |

No Patching - All Rubblized

- 210 -

2022 BRE

DATE 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 26		* STATE CODE [<u>0</u> <u>5</u>]
PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		* SPS PROJECT CODE [<u>0</u> <u>9</u>]
		* TEST SECTION NO. [<u>0</u> <u>3</u>]

1. PATCH MATERIAL USED
Portland Cement Concrete. 1 Polymer Concrete... 2 Epoxy Mortar 3 []
Other (Specify) .. 5 []
2. BONDING AGENT
None. 1 Cement Grout . 2 Epoxy Resin .. 3 []
Other (Specify) ... 4 []
3. MIXTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.)
Coarse Aggregate []
Fine Aggregate []
Cement []
Water []
4. MAXIMUM SIZE OF COARSE AGGREGATE, (inch) []
5. CEMENT TYPE USED
(See Cement Type Codes, Tables A 11) []
6. AIR CONTENT, PERCENT BY VOLUME
Mean []
Range Min []
Max []
7. ADMIXTURES
(See Cement Additive Codes, Table A 12) []
8. SLUMP, (inch)
Mean []
Range Min []
Max []
9. COMPRESSIVE STRENGTH OF PATCH MATERIAL, (psi)
Curing Time Days []
If Unavailable, and Other Strength Test Conducted,
Alternate Test []
Type of Loading []
Age, Days [] Strength, (psi) []

No Patching - All Rubblelized

110

RRF

3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 27 PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <input type="text" value="0 5"/> * SPS PROJECT CODE <input type="text" value="0 9"/> * TEST SECTION NO. <input type="text" value="0 3"/>
---	---

1. CURING METHOD

None... 1 Membrane Curing Compound... 2 Burlap Curing Blankets... 3
 Waterproof Paper Blankets... 4 White Polyethylene Sheeting... 5
 Burlap-Polyethylene Blankets... 6 Insulating Layers... 7
 Cotton Mat Curing... 8 Hay... 9
 Other (Specify)... 10

METHOD 1
 METHOD 2

2. APPROXIMATE TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS

3. AMBIENT CONDITIONS AT TIME OF PATCHING

Air Temperature °F LOW
 HIGH

Surface Moisture - Dry = 1, Wet = 2

4. METHOD OF CONSOLIDATING MATERIALS

Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
 Rodding/Tamping... 4 Rolling... 5
 Other (Specify)... 6

5. FINISHING METHOD

Screeeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
 Other (Specify)... 4

6. JOINT FORMING METHOD

Shoulder

Transverse

Longitudinal

None... 1 Polyethylene Strip Insert... 2 Styrofoam Insert... 3
 Fibreboard Insert... 4 Sawing... 5 Forms... 6
 Other (Specify)... 7

No Patching - All Rubberized

Z-1181

RAC

--- 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 28 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO [2 3]
---	--

1. DATE JOINT SEALANT OPERATIONS BEGAN (Month-Day-Year) [_____]
2. DATE JOINT SEALANT OPERATIONS COMPLETED (Month-Day-Year) [_____]
3. METHOD OF REMOVING OLD SEALANT [_____]
 Not Removed 1 Joint Plow - V-Shaped.. 2 Joint Plow - Rectangular... 3
 High Pressure Water Blasting 4 Diamond Blade Saw . 5
 Carbide Blade Saw . 6 Pull-Out of Old Compression Sealant.. 7
 Not Previously Sealed. . 8
 Other (Specify) . 9
4. NEW SEALANT RESERVOIR DIMENSIONS, (inch)
 Width [_____] Depth (From Top of Slab to Top of Backer Rod or Tape) [_____] [_____]
5. BOND BREAKER UNDER SEALANT [_____
 None... 1 Nonreactive Adhesive Backed Tape.. 2 Backer Rod 3
 Other (Specify) .. 4
6. WERE JOINT SIDEWALLS REFACED? [_____
 No 1 Yes - One-Blade. 2 Yes - Two-Blade.. 3
 Other (Specify) 4
7. CLEANING OF SIDEWALLS [_____
 None . 1 Air Blast 2 Sand Blast.. 3 Water Blast . 4
 Other (Specify) 5

N/A

→ → A ← ← ← → - -

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 29 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [Q S] * SPS PROJECT CODE [Q 9] * TEST SECTION NO [Q 7]
---	---

1. TYPE OF CONTRACTION JOINT SEALANT
(AASHTO OR ASTM SPECIFICATIONS) []

- D1850 (ASTM) Concrete Joint Sealer, Cold-Application Type... 1
D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type. 2
D3406 (ASTM) - M282 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
for PCC Pavements. 3
D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
Asphalt Pavements... 4
D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges.. 5
D2628 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
Pavements 6
Other (Describe - if Silicone Material is Used Federal Spec TT-S-001543A,
Georgia D.O.T. Spec 833 06 or Equal Applies.. 7

Manufacturer Information on Type of Pressure Relief Joint Sealant

Manufacturer Name []
Manufacturer Sealant Name []

2. AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
BELOW PAVEMENT SURFACE, (inch) []

3. ARE EXPANSION JOINTS SEALED DIFFERENTLY THAN CONTRACTION JOINTS? []
Yes... 1 No.. 2

If Yes, Enter the code from Item 1, or describe below []

Other []

4. TOTAL LINEAR FEET OF JOINTS SEALED
Transverse Joints []

Longitudinal Joints []

NOTE: IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 26 AND 27 FOR
EACH RECORDING THEIR LENGTHS IN ITEM NO 4

N/A

Z 7/8

RPF

3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 30 CRACK SEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO [0 1]
--	---

1. DATE CRACK SEALING OPERATIONS BEGAN (Month-Day-Year) [____-____-____]
2. DATE CRACK SEALING OPERATIONS COMPLETED (Month-Day-Year) [____-____-____]
3. NEW SEALANT RESERVOIR DIMENSIONS, Inches If Used
Width [____]
Depth (From Top of Slab to Top of Backer Rod or Tape) [____]
4. BOND BREAKER UNDER SEALANT, If Used
None. 1 Nonreactive Adhesive Backed Tape. 2 Backer Rod . 3
Other (Specify) 4 _____ [____]
5. CLEANING OF CRACKS
None... 1 Routing. . 2 Air Blast... 3 Steel Wire Brush.. 4
Brooming... 5 Other (Specify) . . 6 _____ [____]

No Crack Sealing - Rubbelization then Overlay

2/10

RRF

2-10-01

SPS-9A CONSTRUCTION DATA SHEET 31 CRACK SEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <u><u>GA</u></u> * SPS PROJECT CODE <u><u>9</u></u> * TEST SECTION NO. <u><u>3</u></u>
---	---

1. TYPE OF SEALANT
(AASHTO OR ASTM SPECIFICATIONS) []
- D1850 (ASTM) Concrete Joint Sealer, Cold-Application Type... 1
 D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type... 2
 D3405 (ASTM) - M282 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
for PCC Pavements... 3
 D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
Asphalt Pavements... 4
 D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges. 5
 D2623 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
Pavements... 6
 Other (Describe - if Silicone Material is Used Federal Spec TT-S-001543A,
Georgia D O T Spec 833 06, or Equal Applies 7
-

Manufacturer Information on Type of Pressure Relief Crack Sealant

Manufacturer Name []
 Manufacturer Sealant Name []

2. AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
Below Pavement Surface, (inch) []
3. TOTAL LINEAR FEET OF CRACKS SEALED []

NOTE IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 28 AND 29 FOR
EACH RECORDING THEIR LENGTHS IN ITEM NO 3.

No Sealing - bubbelization then overlay

JKW RPF

DATE 3-10-97.

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 32 DIAMOND GRINDING FOR PORTLAND CEMENT CONCRETE PAVEMENT SURFACES		STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u> <u>1</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>3</u>]
1.	DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year)	(_____-_____-_____)
2.	DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year)	(_____-_____-_____)
3.	REASON FOR GRINDING Elimination of Faulting... 1 Elimination of Slab Warping. . 2 Improve Skid Resistance... 3 Restoration of Transverse Drainage Slope . 4 Other (Specify) 5	(____)
4.	AVERAGE DEPTH OF CUT. (inch)	(_____._____)
5.	CUTTING HEAD WIDTH, (inch)	(_____-_____-_____)
6.	AVERAGE GROOVE WIDTH, (inch)	(_____._____)
7.	AVERAGE SPACING BETWEEN BLADES, (inch)	(_____._____)

No Grinding - Rubble tivation then overlay

..... *Z. H. RAE* RAE DATE 3-10-77

SPS-9A CONSTRUCTION DATA SHEET 33 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE <u>0 5</u> * SPS PROJECT CODE <u>0 2</u> * TEST SECTION NO <u>0 3</u>
--	--

1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year)	[- - - -]	
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year)	[- - - -]	
3. PRIMARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB (See Table A.22 for Type Codes) Other (Specify) _____	[- - - -]	
4. SECONDARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB (See Table A.22 for Type Codes) Other (Specify) _____	[- - - -]	
5. PATCHES	NUMBER	SQ. FEET
	SLAB ONLY	[- - - -]
	SLAB AND BASE	[- - - -]
6. PATCH MATERIAL USED		[- - - -]
Portland Cement Concrete . 1	Polymer Concrete... 2	Epoxy Mortar. 3
Other (Specify)... 4		
7. SLABS REPLACED	NUMBER	SQ. FEET
	SLAB ONLY	[- - - -]
	SLAB AND BASE	[- - - -]
8. METHOD FOR PATCH BOUNDARY DETERMINATION		[- - - -]
Visual . 1	Coring 2	Deflection. 3
State Standard or Specification . 4		
Other (Specify)... 5		
9. CUTTING INSTRUMENT		[- - - -]
Diamond Blade Saw . 1	Carbide Blade Saw 2	Wheel Saw 3
Air Hammer .. 4		
Other (Specify)... 5		

Rubble-filled then Overlay

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DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 34 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <u>05</u> * SPS PROJECT CODE <u>09</u> * TEST SECTION NO. <u>03</u>
---	--

1. SECURING LOAD TRANSFER DEVICES

None..	1	Grout Filler..	2	Epoxy filler..	3	[]
Other..	4					
2. REINFORCING STEEL PLACED IN PATCH

No. .	1	Yes .	2	[]
-------	---	-------	---	-----
3. REBAR NUMBER

<u>TEMPERATURE STEEL</u>	<u>Transverse</u>	<u>Longitudinal</u>	[]
4. BAR LENGTHS, (inch)

<u>Dowel Bars</u>	<u>Tie Bars</u>	[]
5. BAR SPACING, (inch)

<u>Dowel Bars</u>	<u>Tie Bars</u>	[]
6. REBAR NUMBER

<u>Dowel Bars</u>	<u>Tie Bars</u>	[]
7. BAR LENGTHS, (inch)

<u>Dowel Bars</u>	<u>Tie Bars</u>	[]
8. BAR SPACING, (inch)

<u>Dowel Bars</u>	<u>Tie Bars</u>	[]
9. DOWEL COATINGS

None	1	Paint and/or Grease.	2	Plastic	3	[]
Monel	4	Stainless Steel.	5	Epoxy	6	
Other (Specify) .						7
10. NUMBER OF SAW CUTS PER PATCH (If Sawed)

<u>N/A</u>	<u>[]</u>
------------	------------
11. DEPTH OF TYPICAL BOUNDARY SAW CUT, (inch)

<u>N/A</u>	<u>[]</u>
------------	------------
12. CONCRETE BREAKUP

None	1	Pneumatic Air Hammer	2	Gravity Drop Hammer	3	[]
Sawing...	4					
Other (Specify) .						5
13. REMOVAL OF CONCRETE

Concrete Breakup and Cleanout .	1	Lift Out Intact Slab Section.	2	[]	
Other (Specify) ..					

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DATE 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 35 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [0 3]
---	---

- | | | |
|----|---|--|
| 1 | METHOD OF REINFORCING STEEL PLACEMENT
Chairs. . 1 Between Layers of Concrete... 2 | <input type="checkbox"/> |
| 2 | MIKTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.)
Coarse Aggregate | <input type="checkbox"/> |
| | Fine Aggregate | <input type="checkbox"/> |
| | Cement | <input type="checkbox"/> |
| | Water | <input type="checkbox"/> |
| 3 | CEMENT TYPE USED
(See Type Codes, Tables A-11) | <input type="checkbox"/> |
| 4. | AIR CONTENT, PERCENT BY VOLUME | Mean <input type="checkbox"/> Range <input type="checkbox"/> to <input type="checkbox"/> |
| 5. | ADMIXTURES
(See Cement Additive Codes, Table A-12) | <input type="checkbox"/> |
| 6. | SLUMP, (inch) | Mean <input type="checkbox"/> Range <input type="checkbox"/> to <input type="checkbox"/> |
| 7. | FLEXURAL STRENGTH (MODULUS OF RUPTURE), psi
(Based on 3rd Point Loading) Curing Time, Days
If Unavailable, and Other Strength Test Conducted,
Enter Alternate Test <input type="checkbox"/>
Type of Loading <input type="checkbox"/>
Age, Days <input type="checkbox"/> Strength, psi <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | AMBIENT CONDITIONS AT TIME OF PATCHING
Air Temperature °F
Surface Moisture - Dry = 1, Wet = 2 | LOW <input type="checkbox"/> HIGH <input type="checkbox"/> |
| 9 | MAXIMUM SIZE OF COARSE AGGREGATE, (inch) | <input type="checkbox"/> |
| 10 | CONSOLIDATION OF MATERIALS
Internal Vibrators . 1 Vibrating Screeeds . 2 Troweling. 3
Rolling . 4 Tamping 5
Other (Specify) .. 6 | <input type="checkbox"/> |
| 12 | FINISHING
Screeeding... 1 Hand-Troweling.. 2 Machine-Troweling . 3
Other (Specify) . . 4 | <input type="checkbox"/> |

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3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 36 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <u>05</u> * SPS PROJECT CODE <u>09</u> * TEST SECTION NO. <u>03</u>
---	--

- | 1. JOINT FORMING METHOD | SHOULDER | TRANSVERSE | LONGITUDINAL |
|--|---------------|---------------|--|
| | [<u> </u>] | [<u> </u>] | [<u> </u>] |
| None. . 1 Polyethylene Strip Insert . 2 Styrofoam Insert. . 3
Fiberboard Insert . 4 Sawing . 5 Forms. . 6
Other (Specify) . . 7 | | | |
| 2. WAS BOND BREAKER USED BETWEEN ADJACENT LANES? | | | [<u> </u>] |
| Yes .. 1 No... 2 | | | |
| 3. CURING METHOD | | | METHOD 1 [<u> </u>]
METHOD 2 [<u> </u>] |
| None. . 1 Membrane Curing Compound. 2 Burlap Curing Blankets . 3
Waterproof Paper Blankets . 4 White Polyethylene Sheeting .. 5
Burlap-Polyethylene Blankets... 6 Insulating Layers... 7
Cotton Mat Curing .. 8 Hay... 9
Other (Specify) .. 10 | | | |
| 4. APPROXIMATE TYPICAL TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS | | | [<u> </u>] |
| 5. TYPE OF TRANSVERSE JOINTS IN PATCHES
OR SLABS | | | [<u> </u>] |
| None.. 1 All Expansion Joints . 2 All Contraction Joints. . 3
Mixture of Expansion and Contraction Joints. . 4 | | | |
| 6. WERE OLD JOINTS MATCHED? | | | [<u> </u>] |
| Yes. . 1 No . 2 | | | |

N/A

Z 7/20 - - - RPE DATE 3-10-87

SPS-9A CONSTRUCTION DATA SHEET 37 LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO
		[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>0</u> <u>3</u>]

1. DATE LOAD TRANSFER RESTORATION BEGAN (Month-Day-Year) [____-____-____]
2. DATE LOAD TRANSFER RESTORATION COMPLETED (Month-Day-Year) [____-____-____]
3. NUMBER OF JOINTS IN TEST SECTION [____]
4. NUMBER OF JOINT LOAD TRANSFER RESTORATION LOCATIONS [____]
5. NUMBER OF DEVICES PER JOINT [____]
6. LOCATION OF DOWELS OR SHEAR DEVICES (inch)
 (DISTANCE FROM THE OUTER
 LANE EDGE TO THE CENTER
 OF EACH DEVICE)
 1st [____]
 2nd [____]
 3rd [____]
 4th [____]
 5th [____]
 6th [____]
 7th [____]
 8th [____]
 9th [____]
 10th [____]
 11th [____]
 12th [____]
 13th [____]
 14th [____]
7. DIAMETER OF RETROFIT DOWEL BASES, (inch) [____]
8. MATERIAL USED TO BACKFILL SLOT/CORE HOLE
 Cement Based Grout... 1 Polymer Concrete ... 2
 Epoxy Resin Grout... 3
 Other (Specify) ... 4 _____
9. BONDING AGENT USED BETWEEN EXISTING PCC AND BACKFILL MATERIAL
 None... 1 EPOXY . 2 Cement/Water . 3
 Other (Specify) . 4 _____

N/A

Z 110

- - - - R.D.F

11-3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 38
LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES, CONTINUED

* STATE CODE	[<u>0</u> <u>5</u>]
* SPS PROJECT CODE	[<u>0</u> <u>9</u>]
* TEST SECTION NO	[<u>0</u> <u>3</u>]

1 LOAD TRANSFER EFFICIENCY BEFORE AND AFTER RESTORATION

2. DATE OF LOAD TRANSFER EFFICIENCY TESTS
BEFORE RESTORATION (Month-Day-Year)
AFTER RESTORATION (Month-Day-Year)

[— — — — —]

N/A

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3-10- 97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 39 UNDERSEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>7</u>] * TEST SECTION NO. [<u>0</u> <u>3</u>]
---	---

1. DATE UNDERSEALING BEGAN (Month-Day-Year) _____
2. DATE UNDERSEALING COMPLETED (Month-Day-Year) _____
3. TYPE OF MIXTURE USED IN SUBSEALING
Cement-Lcam Top Soil Slurry ... 1 Cement-Limestone Dust Slurry ... 2
Cement-Pozzolan Slurry ... 3 Cement-Fine Sand Slurry... 4
Other (Specify) ... 5 _____
- MIX DESIGN OF PORTLAND CEMENT GROUT (Items 4. to 8.)
4. CEMENT TYPE (SEE CEMENT TYPE CODES, TABLE A.11) _____
5. CEMENT TO SAND RATIO (BY WEIGHT) _____
6. WATER/CEMENT RATIO (BY WEIGHT) _____
7. ADDITIVE TYPE (SEE TABLE A.12) _____
8. AMOUNT OF ADDITIVE (BY PERCENT OF CEMENT WEIGHT) _____
9. FLUIDITY OF PORTLAND CEMENT GROUT
(Flow Cone Method ASTM C939) (SEC) _____
10. CUBE COMPRESSIVE STRENGTH OF PORTLAND CEMENT GROUT, (psi) _____
11. CURING PERIOD FOR PORTLAND CEMENT GROUT (DAYS) _____
12. DETERMINATION OF AREA TO BE UNDERSEALED
Blanketed Coverage... 1 Deflection Data . 2
Visible Signs of Pumping. 3
Other (Specify) . 4 _____

N/A

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DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 40
UNDERSEALING DATA FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES, CONTINUED

<p>* STATE CODE 0 5</p> <p>* SPS PROJECT CODE 2 9</p> <p>* TEST SECTION NO 0 3</p>

- | | |
|---|---|
| 1. DEPTH OF UNDERSEALING HOLE FROM TOP OF SLAB (inch) | [- - -] |
| 2. MAXIMUM ALLOWABLE PUMPING PRESSURE
(Gauge at Plant) (psi) | [- - -] |
| 3. MAXIMUM SURGE PRESSURE (psi) | [- - -] |
| 4. SLABS IN TEST SECTION (JOINTED CONCRETE PAVEMENTS ONLY)
Total Number [- - -] | Number Undersealed [- - -] |
| 5. AVERAGE NUMBER OF HOLES PER SLAB UNDERSEALLED
(JCP Only) | [- - -] |
| 6. TYPICAL NUMBER OF UNDERSEALING HOLES NEAR JOINT OR CRACK
(JCP Only) | [- - -] |
| 7. AVERAGE VOLUME OF MATERIAL PUMPED PER HOLE
(Cubic Feet) | [- - -] |
| 8. MONITORING OF LIFT
Deflection Device (e.g., Benkelman Beam) .. 1 Maximum Pumping Time .. 2
Appearance of Material in Adjacent Joints or Cracks.. 3
Other (Specify) .. 4 | [- - -] |
| 9. TYPICAL TIME BETWEEN UNDERSEALING AND REOPENING TO TRAFFIC (HOURS) | [- - -] |
| 11. WERE DEFLECTION MEASUREMENTS TAKEN BEFORE AND AFTER UNDERSEALING?
Yes 1 No 2 | BEFORE UNDERSEALING [- - -]
AFTER UNDERSEALING [- - -] |
| 12. TIME OF DAY WHEN DEFLECTION MEASUREMENTS WERE CONDUCTED (HOURS) | STARTING TIME [- - - -] ENDING TIME [- - - -] |
| | BEFORE UNDERSEALING [- - - -] [- - - -] |
| | AFTER UNDERSEALING [- - - -] [- - - -] |

N/A

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Answers B&E

2000 3-10-97

April 1991 (Heading revised October 1992)

SPS-3A CONSTRUCTION DATA SHEET 41 SUBDRAINAGE RETROFIT FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO [0 3]
--	--	---

1. DATE SUBDRAINAGE PLACEMENT BEGAN (Month-Day-Year) 10-01-96
2. DATE SUBDRAINAGE PLACEMENT COMPLETED (Month-Day-Year) 10-09-96
3. TYPE OF DRAINAGE PIPE [6]
 Clay Tile . 1 Concrete Tile . 2 Vitrified Clay . 3
 Perforated Plastic Bituminous Fiber . 4 Perforated Corrugated Metal. 5
 Corrugated Plastic Tubing . 6 Drainage Mat. . 7
 Other (Specify) . 8 _____
4. DIAMETER OF PIPE (inch) 40
5. DEPTH OF PIPE BELOW TOP OF PAVEMENT SURFACE (inch) 24
6. HORIZONTAL PLACEMENT OF PIPE FROM OUTER EDGE OF PAVEMENT (inch) 90
7. TYPE OF PRIMARY FILTER USED [3]
 Graded Aggregate. . 1 Uniformly Graded Aggregate (One Size)... 2
 Woven Fabric .. 3 Non-Woven Fabric . 4 Porous PCC... 5
 Porous Bituminous Concrete... 6
 Other (Specify) . 7 _____
8. MAXIMUM PARTICLE SIZE OF PRIMARY FILTER MATERIAL (inch) 15
9. GRADATION OF PRIMARY FILTER MATERIAL

% Passing =4 Sieve [___ ___]	% Passing =40 Sieve [___ ___]
% Passing =10 Sieve [___ ___]	% Passing =100 Sieve [___ ___]
10. PERMEABILITY OF PRIMARY FILTER MATERIAL (feet/day) [__ __ __]
11. TYPE AND LOCATION OF SECONDARY FILTER MATERIAL [__]
 Fabric Encapsulating the Primary Filter Material. 1
 Fabric Encapsulating the Drainage Pipe. 2
 Other (Specify) 3 _____
12. AVERAGE OUTLET INTERVAL (ft) 250
13. PRIMARY PURPOSE OF SUBDRAINAGE INSTALLATION [1]
 Remove Free Water From Pavement Layers 1
 Cut Off Side-Hill/Through Hill Seepage. 2
 Lower Water Table 3
 Other (Specify) 4 _____

ZAH RRF DATE 3-10-87

AUGUST 1995

SPS CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [0 9] [6 0]
--	--	-------------------------------

- *1. LANE WIDTH (ft) [1 2]
2. MONITORING SITE LANE NUMBER
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.) [1]
- *3. SUBSURFACE DRAINAGE LOCATION
Continuous Along Test Section. . 1 Intermittent... 2 None .. 3 [1]
- *4. SUBSURFACE DRAINAGE TYPE
No Subsurface Drainage. . 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket.. 4 Well System.. 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 [2]
- | SHOULDER DATA | INSIDE
SHOULDER | OUTSIDE
SHOULDER |
|---|--------------------|---------------------|
| *5. SURFACE TYPE
Turf .. 1 Granular .. 2 Asphalt Concrete. .. 3
Concrete .. 4 Surface Treatment... 5
Other (Specify)... 6 | [3] | [3] |
| *6. TOTAL WIDTH (ft) | [2 6] | [1 0] |
| *7. PAVED WIDTH (ft) | [0 4] | [1 0] |
| 8. SHOULDER BASE TYPE (CODES-TABLE A.6) | [2 1] | [2 1] |
| 9. SURFACE THICKNESS (inch) | [5 5] | [5 5] |
| 10. SHOULDER BASE THICKNESS (inch) | [5 0] | [5 0] |
| 11. DIAMETER OF LONGITUDINAL DRAINPIPES (inch) | | [4 0] |
| 12. SPACING OF LATERALS (ft) | | [2 5 0] |
| 13. TYPE OF PAVEMENT (See Table A.4 of the SHRP Data Collection Guide) | | [2 8] |

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--- 7-28-97

SPS-9, CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS			* STATE CODE [051] * SPS PROJECT CODE [091] * TEST SECTION NO [60]
---	--	--	--

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (in)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5.3]	INCH	INCH	INCH	INCH
2	[0.5]	[2.7]	[6.0]	[]	[]	[]
3	[0.3]	[0.4]	[4.0]	[]	[]	[]
4	[0.4]	[0.1]	[1.0]	[]	[]	[]
5	[0.4]	[0.1]	[4.0]	[]	[]	[]
6	[0.1]	[0.1]	[2.0]	[]	[]	[]
7	[]	[]	[]	[]	[]	[]
8	[]	[]	[]	[]	[]	[]
9	[]	[]	[]	[]	[]	[]
10	[]	[]	[]	[]	[]	[]
11	[]	[]	[]	[]	[]	[]
12	[]	[]	[]	[]	[]	[]
13	[]	[]	[]	[]	[]	[]
14	[]	[]	[]	[]	[]	[]
15	[]	[]	[]	[]	[]	[]

* See original Data Sheets for Binder + Surface (Combined) info.

5 DEPTH BELOW SURFACE TO "RIGID" LAYER (ft)
(Rock, Stone, Dense Shale)

> 20' []

NOTES

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.
2. Layer description codes:

Overlay.....	01	Base Layer.....	05	Porous Friction Course..	09
Seal/Tack Coat.....	02	Subbase Layer.....	06	Surface Treatment.....	10
Original Surface.....	03	Subgrade.....	07	Embankment (Fill)	11
HMAC Layer (Subsurface)	04	Interlayer....	08		
3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.
4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Z. D. Wunnan EMPLOYER BRE DATE 5-27-97

ENLARGED MAY 28 1997 AS

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[0 5] [0 9] [6 0]
---	--	-------------------------

*1. LAYER NUMBER (FROM SHEET 4)	Level Up	[4]
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel .. 2	Crushed Gravel. [1] [6 1]
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[] []
*4. Other (Specify)... 6		[] []
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand... 1	Crushed or Manufactured Sand	[2] [3 9]
*6. (From Crushed Gravel or Stone) ... 2		[] []
*7. Recycled Concrete... 3	Other... 4 (Specify)	[] []
*8. TYPE OF MINERAL FILLER		[S]
Stone Dust . 1	Hydrated Lime.. 2	Portland Cement . 3
Fly Ash . 4	None . 5	
Other (Specify). . 6		
BULK SPECIFIC GRAVITIES		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)		[2 6 0 8]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)		[2 5 8 0]
*11. Mineral Filler (AASHTO T100 or ASTM D854)		[]
*12. Aggregate Combination (Calculated)		[]
13. Effective Specific Gravity of Aggregate Combination (Calculated)		[]
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A 13)		
TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14. Coarse	[]	[]
15. Coarse	[]	[]
16. Coarse	[]	[]
17. Coarse and Fine - Combined	[]	[]
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[]
9. $\frac{(0.35 \times 2.612) + (0.76 \times 2.603)}{0.61} = 2.608$		

$$10. \frac{(0.30 \times 2.574) + (0.09 \times 2.598)}{0.39} = 2.5795$$

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4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>2</u> <u>0</u>]
---	--	---

*1. LAYER NUMBER (FROM SHEET 4)	Binder	[<u>5</u>]
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel... [<u>1</u>] [<u>6</u> <u>1</u> .]
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[<u>1</u>] [<u> </u> <u> </u> <u> </u>]
*4. Other (Specify) ... 6		[<u>1</u>] [<u> </u> <u> </u> <u> </u> .]
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand. . 1	Crushed or Manufactured Sand	[<u>2</u>] [<u>3</u> <u>9</u>]
*6. (From Crushed Gravel or Stone) ... 2		[<u>1</u>] [<u> </u> <u> </u> <u> </u>]
*7. Recycled Concrete... 3	Other... 4	[<u>1</u>] [<u> </u> <u> </u> <u> </u>]
(Specify) _____		
*8. TYPE OF MINERAL FILLER		[<u>5</u>]
Stone Dust. . 1	Hydrated Lime... 2	Portland Cement... 3
Fly Ash... 4	None ... 5	
Other (Specify) ... 6		
BULK SPECIFIC GRAVITIES.		
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)		[<u>2</u> <u>6</u> <u>0</u> <u>8</u>]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)		[<u>2</u> <u>5</u> <u>8</u> <u>0</u>]
*11. Mineral Filler (AASHTO T100 or ASTM D854)		[<u> </u> <u> </u> <u> </u>]
*12. Aggregate Combination (Calculated)		[<u> </u> <u> </u> <u> </u>]
13. Effective Specific Gravity of Aggregate Combination (Calculated)		[<u> </u> <u> </u> <u> </u>]
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A.13)		
TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14. Coarse	[<u> </u> <u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]
15. Coarse	[<u> </u> <u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]
16. Coarse	[<u> </u> <u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]
17. Coarse and Fine - Combined	[<u> </u> <u> </u>]	[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[<u> </u> <u> </u>]

I. H. Danne - BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	(0 5) (0 9) (6 0)
---	--	--	-------------------------

*1. LAYER NUMBER (FROM SHEET 4)	Surface	[6]
COMPOSITION OF COARSE AGGREGATE		
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel . [1] [43.]
*3. Crushed Slag... 4	Manufactured Lightweight... 5	[] []
*4. Other (Specify) ... 6		[] []
COMPOSITION OF FINE AGGREGATE		
*5. Natural Sand... 1	Crushed or Manufactured Sand	[2] [57.]
*6. (From Crushed Gravel or Stone) ... 2		[] []
*7. Recycled Concrete.. 3	Other... 4	[] []
(Specify) _____		
*8. TYPE OF MINERAL FILLER		(5)
Stone Dust... 1	Hydrated Lime . 2	Portland Cement. 3
Fly Ash. . 4	None . . 5	
Other (Specify) ... 6		
BULK SPECIFIC GRAVITIES		
*9. Coarse Aggregate (AASHTO T95 or ASTM C127)		(2 60 3)
*10. Fine Aggregate (AASHTO T94 or ASTM C128)		(2 58 4)
*11. Mineral Filler (AASHTO T100 or ASTM D854)		[]
*12. Aggregate Combination (Calculated)		[]
13. Effective Specific Gravity of Aggregate Combination (Calculated)		[]
AGGREGATE DURABILITY TEST RESULTS (SEE DURABILITY TEST TYPE CODES, TABLE A.13)		
TYPE OF AGGREGATE		TYPE OF TEST
14. Coarse		[]
15. Coarse		[]
16. Coarse		[]
17. Coarse and Fine - Combined		[]
18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)		[]
19. $\frac{(0.35 \times 2.574) + (0.05 \times 2.603) + (0.17 \times 2.598)}{0.57} = 2.5837$		

7-710. RRE

DATE 4-21-97 ..

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO. <div style="text-align: center;"> $\begin{matrix} 0 & 5 \\ 2 & 9 \\ 6 & 0 \end{matrix}$ </div>
---	---

*1. LAYER NUMBER (FROM SHEET 4)	[4]		
COMPOSITION OF COARSE AGGREGATE			
*2. Crushed Stone . . 1	Gravel .. 2	Crushed Gravel. []	[]
*3. Crushed Slag... 4	Manufactured Lightweight .. 5	[]	[]
*4. Other (Specify) ... 6		[]	[]
COMPOSITION OF FINE AGGREGATE		TYPE	PERCENT
*5 Natural Sand. . 1	Crushed or Manufactured Sand	[2]	[]
*6. (From Crushed Gravel or Stone) ... 2		[]	[]
*7. Recycled Concrete .. 3	Other... 4 (Specify)	[]	[]
*8. TYPE OF MINERAL FILLER			[5]
Stone Dust. . 1	Hydrated Lime .. 2	Portland Cement... 3	
Fly Ash. 4	None ... 5		
Other (Specify). . 6			
BULK SPECIFIC GRAVITIES.			
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)			[]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)			[]
*11. Mineral Filler (AASHTO T100 or ASTM D854)			[]
*12. Aggregate Combination (Calculated)			[]
13 Effective Specific Gravity of Aggregate Combination (Calculated)			[]
14. Angularity		One Face	Two Faces
Coarse (% Fractured Faces)		[]	[]
Fine (% Voids)			[]
15 Soundness		Test Type	Result
Coarse (Type of Test From A.13, % loss)		[0 3]	[]
Fine (Type of Test From A.13, % loss)		[0 3]	[]
16. Toughness of Coarse Aggregate (% loss LAR)		[0 1]	[]
17. deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)		[0 9]	[]
18 Clay Content (Sand Equivalent, ratio)			[]
19. Thin, Elongated Particles (%)			[]

→ 11A

REF

--- 4-11-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO	[<u>2</u> <u>5</u>] [<u>2</u> <u>9</u>] [<u>6</u> <u>2</u>]
---	---	---

*1. LAYER NUMBER (FROM SHEET 4)	[<u>5</u>]
COMPOSITION OF COARSE AGGREGATE	
*2. Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[<u>1</u>] [<u>6</u> <u>1</u>]
*3. Crushed Slag... 4 Manufactured Lightweight... 5	[<u> </u>] [<u> </u> <u> </u>]
*4. Other (Specify)... 6	[<u> </u>] [<u> </u> <u> </u>]
COMPOSITION OF FINE AGGREGATE	
*5. Natural Sand . 1 Crushed or Manufactured Sand	[<u>2</u>] [<u>3</u> <u>9</u>]
*6. (From Crushed Gravel or Stone) . 2	[<u> </u>] [<u> </u> <u> </u>]
*7. Recycled Concrete. . 3 Other. 4 (Specify)	[<u> </u>] [<u> </u> <u> </u>]
*8. TYPE OF MINERAL FILLER	[<u>5</u>]
Stone Dust. 1 Hydrated Lime. 2 Portland Cement . 3	[<u> </u>]
Fly Ash.. 4 None .. 5	[<u> </u>]
Other (Specify) .. 6	[<u> </u>]
BULK SPECIFIC GRAVITIES.	
*9. Coarse Aggregate (AASHTO T85 or ASTM C127)	[<u>2</u> <u>6</u> <u>0</u> <u>8</u>]
*10. Fine Aggregate (AASHTO T84 or ASTM C128)	[<u>2</u> <u>5</u> <u>8</u> <u>0</u>]
*11. Mineral Filler (AASHTO T100 or ASTM D854)	[<u> </u> <u> </u> <u> </u>]
*12. Aggregate Combination (Calculated)	[<u> </u> <u> </u> <u> </u>]
13. Effective Specific Gravity of Aggregate Combination (Calculated)	[<u> </u> <u> </u> <u> </u>]
14. Angularity	One Face Two Faces
Coarse (% Fractured Faces)	[<u> </u> <u> </u>]
Fine (% Voids)	[<u> </u> <u> </u>]
15. Soundness	Test Type Result
Coarse (Type of Test From A.13, % loss.)	[<u>0</u> <u>3</u>] [<u> </u> <u> </u>]
Fine (Type of Test From A.13, % loss)	[<u>0</u> <u>3</u>] [<u> </u> <u> </u>]
16. Toughness of Coarse Aggregate (% loss LAR)	[<u>0</u> <u>1</u>] [<u> </u> <u> </u>]
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A.13, % loss)	[<u>0</u> <u>9</u>] [<u> </u> <u> </u>]
18. Clay Content (Sand Equivalent, ratio)	[<u> </u> <u> </u>]
19. Thin, Elongated Particles (%)	[<u> </u> <u> </u>]

Z. W. Dunn BRE

DATE 4-21-97

SPS-9A CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE AGGREGATE PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO	[<u>0</u> <u>5</u>] [<u>2</u> <u>9</u>] [<u>6</u> <u>0</u>]
---	---	---

*1. LAYER NUMBER (FROM SHEET 4)	[6]		
COMPOSITION OF COARSE AGGREGATE			
*2. Crushed Stone... 1	Gravel... 2	Crushed Gravel.	[<u>1</u>] [_____ <u>4</u> <u>3</u>]
*3. Crushed Slag... 4	Manufactured Lightweight... 5		[<u> </u>] [_____ <u> </u> <u> </u>]
*4. Other (Specify)... 6			[<u> </u>] [_____ <u> </u> <u> </u>]
COMPOSITION OF FINE AGGREGATE			
*5. Natural Sand. . 1	Crushed or Manufactured Sand		[<u>2</u>] [_____ <u>5</u> <u>7</u>]
*6. (From Crushed Gravel or Stone) .. 2			[<u> </u>] [_____ <u> </u> <u> </u>]
*7. Recycled Concrete .. 3	Other .. 4		[<u> </u>] [_____ <u> </u> <u> </u>]
(Specify)			
*8. TYPE OF MINERAL FILLER			[5]
Stone Dust. . 1	Hydrated Lime.. 2	Portland Cement	3
Fly Ash. . 4	None ... 5		
Other (Specify)... 6			
BULK SPECIFIC GRAVITIES.			
*9. Coarse Aggregate (AASHTO T35 or ASTM C127)			[<u>2</u> <u>6</u> <u>0</u> <u>3</u>]
*10. Fine Aggregate (AASHTO T34 or ASTM C128)			[<u>2</u> <u>5</u> <u>8</u> <u>4</u>]
*11. Mineral Filler (AASHTO T100 or ASTM D854)			[_____ <u> </u> <u> </u>]
*12. Aggregate Combination (Calculated)			[_____ <u> </u> <u> </u>]
13. Effective Specific Gravity of Aggregate Combination (Calculated)			[_____ <u> </u> <u> </u>]
14. Angularity			
Coarse (% Fractured Faces)		One Face	[_____ <u> </u>]
Fine (% Voids)		Two Faces	[_____ <u> </u>]
15. Soundness			
Coarse (Type of Test From A 13, % loss)		Test Type	Result
Fine (Type of Test From A.13, % loss)		[<u>0</u> <u>3</u>]	[_____ <u> </u> <u> </u>]
16. Toughness of Coarse Aggregate (% loss LAR)		[<u>0</u> <u>3</u>]	[_____ <u> </u> <u> </u>]
17. Deleterious Materials (Clay Lumps and Friable Particles of Fine Aggregates) (Type of Test From A 13, % loss)		[<u>0</u> <u>1</u>]	[_____ <u> </u> <u> </u>]
18. Clay Content (Sand Equivalent, ratio)		[<u>0</u> <u>9</u>]	[_____ <u> </u>]
19. Thin, Elongated Particles (%)			[_____ <u> </u>]

Z. W. Dunn - RRF

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>2</u> <u>9</u>] [<u>6</u> <u>0</u>]

- *1. LAYER NUMBER (FROM SHEET 4) 70-22 Level up [4]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16)
(IF OTHER, SPECIFY) P6 70-22 []
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) Ergon Memphis, TN []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1.028]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) []
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) []
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g., 5 sec.) []
- ASPHALT MODIFIERS (SEE TYPE CODE, A 15) TYPE QUANTITY (%)
8. MODIFIER #1 Unknown quantity [] [.]
9. MODIFIER #2
(IF OTHER, SPECIFY) SBS modifier [] []
10. DUCTILITY AT 77°F (cm)
(AASHTO T51) []
11. DUCTILITY AT 39 2°F (cm)
(AASHTO T51) []
12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39 2°F (CM/MIN) []
13. PENETRATION AT 39 2°F (AASHTO T49) (TENTHS OF A mm)
(200 g., 60 sec.) []
14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) []

NOTE If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties"

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4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>6</u> <u>0</u>]

- *1. LAYER NUMBER (FROM SHEET 4) Binder [5]
- *2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) 70-22 []
(IF OTHER, SPECIFY) P.G. 60
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) Region 6 []
(IF OTHER, SPECIFY) Egion - Memphis, TN
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1 0 2 8]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) []
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) []
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm)
(100 g, 5 sec.) []
- ASPHALT MODIFIERS (SEE TYPE CODE, A.15) TYPE QUANTITY (%)
8. MODIFIER #1 [] [.]
9. MODIFIER #2
(IF OTHER, SPECIFY) [] [.]
10. DUCTILITY AT 77°F (cm)
(AASHTO T51) []
11. DUCTILITY AT 39 2°F (cm)
(AASHTO T51) []
12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39 2°F (CM/MIN) []
13. PENETRATION AT 39 2°F (AASHTO T49) (TENTHS OF A mm)
(200 g, 60 sec.) []
14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) []

NOTE If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

----- Z. N. Duman 4-21-97 DATE BRE

August 1995

SPS-9A CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>6</u> <u>0</u>]
--	--	---

*1. LAYER NUMBER (FROM SHEET 4)	<u>Surface</u>	[<u>6</u>]
*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) (IF OTHER, SPECIFY)	<u>P.G. 70-22</u>	[<u> </u>]
*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) (IF OTHER, SPECIFY)	<u>Ergon - Memphis, TN</u>	[<u> </u>]
4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T223)		[<u>1</u> <u>0</u> <u>2</u> <u>8</u>]
<u>GENERAL ASPHALT CEMENT PROPERTIES</u> (If available from supplier)		
5. VISCOSITY OF ASPHALT AT 140°F (Poises) (AASHTO T202)		[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]
6. VISCOSITY OF ASPHALT AT 275°F (Centistokes) (AASHTO T202)		[<u> </u> <u> </u> <u> </u> <u> </u> <u> </u>]
7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A mm) (100 g, 5 sec.)		[<u> </u> <u> </u> <u> </u>]
<u>ASPHALT MODIFIERS</u> (SEE TYPE CODE, A.15)		
8. MODIFIER #1	<u> </u>	[<u> </u> <u> </u>]
9. MODIFIER #2 (IF OTHER, SPECIFY)	<u> </u>	[<u> </u> <u> </u>]
10. DUCTILITY AT 77°F (cm) (AASHTO TS1)		[<u> </u> <u> </u> <u> </u>]
11. DUCTILITY AT 39.2°F (cm) (AASHTO TS1)		[<u> </u> <u> </u> <u> </u>]
12. TEST RATE FOR DUCTILITY MEASUREMENT AT 39.2°F (CM/MIN)		[<u> </u> <u> </u> <u> </u>]
13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A mm) (200 g, 60 sec.)		[<u> </u> <u> </u> <u> </u>]
14. RING AND BALL SOFTENING POINT (AASHTO TS3) (°F)		[<u> </u> <u> </u> <u> </u>]

NOTE If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

Terry W. D. BRE

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [6 0]
--	---

- *1. LAYER NUMBER (FROM SHEET 4) Level op [4]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [7 0] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) Ergen - Memphis, TN ✓ []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
(AASHTO T228) [1 0 2 8]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(Tank Asphalt) (AASHTO TP5) [1 9 8] []
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(RTFO Asphalt) (AASHTO TP5) [2 9 1] []
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa,DEG)
(PAV Asphalt) (AASHTO TP5) [1 8 4 3] []
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa,RATIO)
(PAV Asphalt) (AASHTO TP1) [1 2 3] [0 3 6 5]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa,RATIO)
(PAV Asphalt) (AASHTO TP3) [] []

Fran W. D... - - - - BRF

DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [6 0]
--	--

- *1. LAYER NUMBER (FROM SHEET 4) Binder [5]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [7 0] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
 (IF OTHER, SPECIFY) Eggers - Memphis, TN ✓ []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT
 (AASHTO T228) [1.0 2 8]
- GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
 (Tank Asphalt) (AASHTO TP5) [1 1 9 8] []
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
 (RTFO Asphalt) (AASHTO TP5) [2 9 1] []
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
 (PAV Asphalt) (AASHTO TP5) [1 8 4 3] []
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa, RATIO)
 (PAV Asphalt) (AASHTO TP1) [1 2 3] [0 3 6 5]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa, RATIO)
 (PAV Asphalt) (AASHTO TP3) [] []

Z 219. RRE DATE 4-21-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE ASPHALT BINDER PROPERTIES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>6</u> <u>0</u>]

- *1. LAYER NUMBER (FROM SHEET 4) Surface [6]
- *2. ASPHALT GRADE (Specify Design SHRP PG Grading) PG [7 0] - [2 2]
- *3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14)
(IF OTHER, SPECIFY) Eggers - Memphis, TN ✓ []
4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1 0 2 8]
GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)
5. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(Tank Asphalt) (AASHTO TP5) [1 9 8] []
6. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(RTFO Asphalt) (AASHTO TP5) [2 9 1] []
7. DYNAMIC SHEAR RHEOMETER COMPLEX MODULUS AND PHASE ANGLE (kPa, DEG)
(PAV Asphalt) (AASHTO TP5) [1 8 4 3] []
8. BENDING BEAM RHEOMETER STIFFNESS MODULUS AND SLOPE (MPa, RATIO)
(PAV Asphalt) (AASHTO TP1) [1 2 3] [0 3 6 5]
9. DIRECT TENSION TENSILE STRENGTH AND TENSILE STRAIN (kPa, RATIO)
(PAV Asphalt) (AASHTO TP3) [] []

----- JAD BRE DATE 4-27-97

March 1997

SPS-9 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES - DESIGN	* STATE CODE <u>(0 5)</u> * SPS PROJECT CODE <u>(0 9)</u> * TEST SECTION NO. <u>(6 0)</u>
---	---

- *1. LAYER NUMBER (FROM SHEET 4) (6)
- *2. TYPE OF MIX DESIGN
Marshall... 1 HVEEM... 2 SUPERPAVE... 3
Other (Specify) ...4
3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) (2.445)
4. BULK SPECIFIC GRAVITY (ASTM D1198) (2.275)
5. ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172) (51)
6. AIR Voids (PERCENT) (4.2) 1997
7. VOIDS IN MINERAL AGGREGATE (PERCENT) (15.6) A
8. EFFECTIVE ASPHALT CONTENT (PERCENT) (—) S
9. MARSHALL STABILITY (lb) (AASHTO T245 OR ASTM D1559) (—)
10. NUMBER OF BLOWS (—)
11. MARSHALL FLOW (0.01 in)
(AASHTO T245 OR ASTM D1559) (—)
12. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) (—)
13. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH)
(AASHTO T246 OR ASTM 1561) (—)
14. SUPERPAVE GYRATORY COMPACTION N_{design} (169)
15. ASPHALT GRADE (SET ASPHALT CODE SHEET, TABLE A.16) (—)
16. SUPERPAVE ASPHALT BINDER GRADE (# G 70 - 22)

ENTERED MAY 28

PREPARED Z. V. Dunn EMPLOYER BRE DATE 5-27-97

August 1995

SPS-9A CONSTRUCTION DATA
SHEET 10
PLANT-MIXED ASPHALT BOUND LAYERS
SUPERPAVE MIXTURE PROPERTIES

* STATE CODE	[<u>2</u> 5]
* SPS PROJECT CODE	[<u>0</u> 9]
* TEST SECTION NO.	[<u>6</u> 0]

- | | | | | |
|--|--|--|--|---------------------------------|
| *1. | LAYER NUMBER (FROM SHEET 4) | 1 | Level Up | [4] |
| *2 | TYPE OF SAMPLES | SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2 | | [2] |
| *3 | MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) | | | [2 4 6 2] |
| BULK SPECIFIC GRAVITY (ASTM D1188) | | | | |
| *4.
5.
6. | MEAN
MINIMUM | [2 2 9 8 1]
[2.2 4 2] | NUMBER OF TESTS
MAXIMUM
STD. DEV. | [1 1]
[2.3 5 9]
[2.0 4 4] |
| ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172) | | | | |
| *7.
8.
9. | MEAN
MINIMUM | [5.0]
[4.9] | NUMBER OF SAMPLES
MAXIMUM
STD. DEV | [1 0]
[5.3]
[2.1] |
| PERCENT AIR Voids | | | | |
| *10.
11.
12. | MEAN
MINIMUM | [4 2]
[3 0] | NUMBER OF SAMPLES
MAXIMUM
STD. DEV | [2 0]
[5 1]
[0 6] |
| *13. | VOIDS IN MINERAL AGGREGATE (PERCENT) | | | [1 5 1] |
| *14. | EFFECTIVE ASPHALT CONTENT (PERCENT) | | | [] |
| *15. | FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ) | 4°C [] 20°C [] 40°C [] | | [] |
| *16. | UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm) | 4°C [] 20°C [] 40°C [] | | [] |
| *17. | VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm) | 4°C [] 20°C [] 40°C [] | | [] |
| *18. | SIMPLE SHEAR | 4°C [] 20°C [] 40°C [] | | [] |
| | Axial Stress, kPa []
Shear Stress, kPa []
Shear Strain mm/mm [] | | | |
| *19. | TYPE OF ANTISTRIPPING AGENT USED
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) _____ | None Used | | [] |
| *20. | AMOUNT OF ANTISTRIPPING AGENT USED | | LIQUID OR SOLID CODE | [] |
| *21. | (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight.) | | | [] |

[Signature]

RRF

4-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
		[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>6</u> <u>0</u>]

- P.C. 70-22
B. Jan [5] [2]
- *1. LAYER NUMBER (FROM SHEET 4)
- *2. TYPE OF SAMPLES
SAMPLES COMPACTED IN LABORATORY . 1
SAMPLES TAKEN FROM TEST SECTION. 2
- *3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) [2 4 6 2]
- BULK SPECIFIC GRAVITY (ASTM D1188)
- *4. MEAN [2 2 9 8] NUMBER OF TESTS [1 1]
5. MINIMUM [2 2 4 2] MAXIMUM [2 3 5 9]
6. STD. DEV [0 0 4 4] STD. DEV [0 0 4 4]
- ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)
- *7. MEAN [5 0] NUMBER OF SAMPLES [1 0]
8. MINIMUM [4 9] MAXIMUM [5 3]
9. STD. DEV [0 1]
- PERCENT AIR VOIDS
- *10. MEAN [4 2] NUMBER OF SAMPLES [2 0]
11. MINIMUM [3 0] MAXIMUM [5 1]
12. STD. DEV [0 6]
- *13. VOIDS IN MINERAL AGGREGATE (PERCENT) [1 5 1]
- *14. EFFECTIVE ASPHALT CONTENT (PERCENT) [— — —]
- *15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)
4°C [— — —] 20°C [— — —] 40°C [— — —]
[— — —] [— — —] [— — —] [— — —] [— — —]
- *16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)
4°C [— — —] 20°C [— — —] 40°C [— — —]
[— — —] [— — —] [— — —] [— — —] [— — —]
- *17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)
4°C [— — —] 20°C [— — —] 40°C [— — —]
[— — —] [— — —] [— — —] [— — —] [— — —]
- *18. SIMPLE SHEAR
Axial Stress, kPa [— — —] 4°C [— — —] 20°C [— — —] 40°C [— — —]
Shear Stress, kPa [— — —] [— — —] [— — —]
Shear Strain mm/mm [— — —] [— — —] [— — —]
- *19. TYPE OF ANTISTRIPPING AGENT USED
(SEE TYPE CODES, TABLE A.21) None Used [— —]
OTHER (SPECIFY) _____
- *20. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [—]
- *21. (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight.) [— — —]

L.G.J. ENCL 2 BRE DATE 4-22-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS SUPERPAVE MIXTURE PROPERTIES		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [6 0]
--	--	--

P-6.70-22

*1. LAYER NUMBER (FROM SHEET 4) Surface [6] [2]

*2. TYPE OF SAMPLES
SAMPLES COMPACTED IN LABORATORY ... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS)
(AASHTO T209 OR ASTM D2041) [2.445]

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.275] NUMBER OF TESTS [5]
5. MINIMUM [2.250] MAXIMUM [2.312]
6. STD. DEV. [0.023]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)

*7. MEAN [5.1] NUMBER OF SAMPLES [5]
8. MINIMUM [5.0] MAXIMUM [5.2]
9. STD. DEV. [0.1]

PERCENT AIR Voids

*10. MEAN [4.4] NUMBER OF SAMPLES [10]
11. MINIMUM [3.5] MAXIMUM [5.4]
12. STD. DEV. [0.6]

*13. VOIDS IN MINERAL AGGREGATE (PERCENT) [15.4]

*14. EFFECTIVE ASPHALT CONTENT (PERCENT) [15.4]

*15. FREQUENCY SWEEP (Complex Modulus, MPa & Phase Angle, δ)
4°C [] 20°C [] 40°C []
[] [] [] [] [] []

*16. UNIAXIAL STRAIN (Axial Stress, kPa & Strain, mm/mm)
4°C [] 20°C [] 40°C []
[] [] [] [] [] []

*17. VOLUMETRIC STRAIN (Confining Pressure, kPa & Axial Strain, mm/mm)
4°C [] 20°C [] 40°C []
[] [] [] [] [] []

*18. SIMPLE SHEAR
Axial Stress, kPa [] 4°C [] 20°C [] 40°C []
Shear Stress, kPa [] [] [] []
Shear Strain mm/mm [] [] [] []

*19. TYPE OF ANTISTRIPPING AGENT USED
(SEE TYPE CODES, TABLE A.21) None Used
OTHER (SPECIFY) _____ []

*20. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE []

*21. (If liquid, enter code 1, and amount as percent
of asphalt cement weight. If solid, enter code
2 and amount as percent of aggregate weight.) []

ZJH

EMPLOYEE RRE

DATE 4-22-77

August 1995

SPS-9A CONSTRUCTION DATA SHEET 11 CUT-FILL SECTION LOCATIONS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[0 5] [0 9] [6 0]

ORDER	*1 CUT-FILL TYPE ¹	TEST SECTION STATION NUMBER	
		*2 START	*3 END
1	<u>2</u>	0 + 0 0	— — — 5 + 0 0
2	— — —	— — — + — —	— — — — + — —
3	— — —	— — — — + — —	— — — — — + — —
4	— — —	— — — — + — —	— — — — — + — —
5	— — —	— — — — + — —	— — — — — + — —
6	— — —	— — — — + — —	— — — — — + — —
7	— — —	— — — — + — —	— — — — — + — —
8	— — —	— — — — + — —	— — — — — + — —
9	— — —	— — — — + — —	— — — — — + — —
10	— — —	— — — — + — —	— — — — — + — —

- NOTES:
1. Indicate the type of subgrade construction with one of the following.
Cut... 1 Fill... 2
 2. Use one line for each cut or fill zone present within the section boundaries

JW 2/8 ----- RRE

DATE 3-7-87

August 1995

SPS-9A CONSTRUCTION DATA SHEET 1.2 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [6 0]
---	---

1. DATE SURFACE PREPARATION BEGAN (Month-Day-Year) 1 1-18-96
2. DATE SURFACE PREPARATION COMPLETED (Month-Day-Year) 1 1-18-96
3. SURFACE PREPARATION PRIOR TO PLACEMENT OF OVERLAY
None..... 1 Broomed.... 2 Broomed + Asphaltic Tack Coat.... 3
Asphaltic Tack Coat (only) ... 4 3
4. TACK COAT
Material Type None... 1 SS-1.... 2 SS-1H.... 3 CRS-1 ... 4
CRS-2.... 5 CMS-2.... 6 CMS-2H... 7 CSS-1 ... 8 CSS-1H... 9
Other... 10 (Specify) 10 ✓
5. TACK COAT DILUTION
(Percent)
Mixing Rate Parts Diluent [__] TO Parts Asphalt [__] 50 ✓
6. TACK COAT APPLICATION RATE (Gal/Sq. Yd.) 0.03
7. ASPHALT CONCRETE PLANT AND HAUL

Plant	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
1	[2]	<u>E.C. Rowlett</u>	[3 3]	[3 5]	[4] [5] [6]
2	[]		[- -]	[- -]	[- -]
3	[]		[- -]	[- -]	[- -]
Plant Type	Batch..	1 Drum Mix.	2 Other .	3 Specify	
8. MANUFACTURER OF ASPHALT CONCRETE PAVER BIAW - Knox
9. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF - 5510
10. SINGLE PASS LAYDOWN WIDTH (Feet) 130

11. Layer No.	12 Material Type Classification Code	13 Nominal Lift Placement Thickness				14. Tack Coat Between Lifts? (Y/N)	15 Transverse Joint Station
		1 st Lift	2 nd Lift	3 rd Lift	4 th Lift		
[4]	[0 1]	[1 5]	[]	[]	[]	[Y]	[+]
[5]	[0 1]	[3 3]	[]	[]	[]	[Y]	[1 4 2]
[6]	[0 1]	[2 0]	[]	[]	[]	[Y]	[+]

16. LOCATION OF LONGITUDINAL SURFACE JOINT
Between lanes.. 1 Within lane . 2 (specify offset from O/S feet) 1 2 0
17. SIGNIFICANT EVENTS DURING CONSTRUCTION(disruptions, rain, equip problems, etc)

Z 719

RRE

DATE 3/7/97

August 1995

SPS-9A-CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [0 0]
---	--	--	---

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [4 0 - 0 8 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [4 0 - 0 8 - 9 6]
 *3. LAYER NUMBER [4]

*4. MIXING TEMPERATURE (°F) [3 1 0]

5. LAYDOWN TEMPERATURES (°F)

Mean.....	[2 8 5]	Number of Tests	[____]
Minimum.....	[2 8 5]	Maximum.	[2 8 5]
Standard Deviation..	[____]		

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mpn)
6	A	Steel-Whl Tandem	---				
7	B	Steel-Whl Tandem	---				
8	C	Steel-Whl Tandem	---				
9	D	Steel-Whl Tandem	---				
10	E	Pneumatic-Tired	---				
11	F	Pneumatic-Tired	---				
12	G	Pneumatic-Tired	---				
13	H	Pneumatic-Tired	---				
14	I	Single-Drum Vibr	---				
15	J	Single-Drum Vibr	---				
16	K	Single-Drum Vibr	---				
17	L	Single-Drum Vibr	---				
18	M	Double-Drum Vibr	1 1 8		3 0 0 0.	0 2 7	
19	N	Double-Drum Vibr	---				
20	O	Double-Drum Vibr	---				
21	P	Double-Drum Vibr.	---				
22	Q	Other	Combination steel (Steel) drum and rubber tires				

	COMPACTON DATA	First Lift	Second Lift	Third Lift	Fourth Lift
23	BREAKDOWN Roller Code (A-Q)	M			
24	Coverages	- 4	--	--	--
25	INTERMEDIATE Roller Code (A-Q)	-			
26	Coverages	--	--	--	--
27	FINAL Roller Code (A-Q)	Q			
28	Coverages	- 2	--	--	--
29	Air Temperature (°F)	- 6 5			
30	Compacted Thickness (in)	- 1 0	--	--	--
31	Curing Period (Days)	0	--	--	--

Surface mix was placed 1 month after the binder mix
 Road was open to traffic approximately 3 months after laying
 the surface mix.

 BRE

DATE 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA			* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [6 0]
---	--	--	--

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 0 - 0 8 - 9 6]
 *3. LAYER NUMBER [5]
 *4. MIXING TEMPERATURE (°F) [3 1 0.]
 5. LAYDOWN TEMPERATURES (°F)
 Mean..... [2 8 5] Number of Tests [1 1]
 Minimum..... [2 8 5] Maximum..... [2 8 5.]
 Standard Deviation. . [0 0]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Side Press (psi)	Frequency (Vibr./Min.)	Amplitude (in)	Speed (mph)
6	A	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
7	B	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
8	C	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
9	D	Steel-Whl Tandem	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
10	E	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
11	F	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
12	G	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
13	H	Pneumatic-Tired	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
14	I	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
15	J	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
16	K	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
17	L	Single-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
18	M	Double-Drum Vibr.	11.8	[REDACTED]	3 0 0 0	0 2 7	— —
19	N	Double-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
20	O	Double-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
21	P	Double-Drum Vibr.	— — —	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
22	Q	Other	Combination steel (static) drum and rubber tires				
		COMPACTON DATA		First Lift	Second Lift	Third Lift	Fourth Lift
23		BREAKDOWN Roller Code (A-Q) Coverages		— 1	— —	— —	— —
24				— —	— —	— —	— —
25		INTERMEDIATE Roller Code (A-Q) Coverages		— —	— —	— —	— —
26				— —	— —	— —	— —
27		FINAL Roller Code (A-Q) Coverages		— 2	— —	— —	— —
28				— —	— —	— —	— —
29		Air Temperature (°F)	— 6 5	— — —	— — —	— — —	— — —
30		Compacted Thickness (in)	— 4 0	— — —	— — —	— — —	— — —
31		Curing Period (Days)	3 0	— — —	— — —	— — —	— — —

Surface mix was placed 1 month after the binder mix
 Road was open to traffic approximately 3 months after laying
 the surface mix.

Z. J. D. BRE

DATE 3-7-77

August 1995

SPS-9A CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA		* STATE CODE [0 5] * SPS PROJECT CODE [2 9] * TEST SECTION NO. [6 0]
---	--	--

- *1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [1 1-19-96]
 *2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [1 1-19-96]
 *3. LAYER NUMBER [6]
 *4. MIXING TEMPERATURE (°F) [310]
 5. LAYDOWN TEMPERATURES (°F)
 Mean. [285] Number of Tests [1]
 Minimum..... [285] Maximum.... [285]
 Standard Deviation.. [20]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (in)	Speed (mpn)
6	A	Steel-Whl Tandem	— — —				
7	B	Steel-Whl Tandem	— — —				
8	C	Steel-Whl Tandem	— — —				
9	D	Steel-Whl Tandem	— — —				
10	E	Pneumatic-Tired	— — —				
11	F	Pneumatic-Tired	— — —				
12	G	Pneumatic-Tired	— — —				
13	H	Pneumatic-Tired	— — —				
14	I	Single-Drum Vibr	— — —				
15	J	Single-Drum Vibr	— — —				
16	K	Single-Drum Vibr	— — —				
17	L	Single-Drum Vibr	— — —				
18	M	Double-Drum Vibr	11.8		3000	0.27	—
19	N	Double-Drum Vibr	— — —				
20	O	Double-Drum Vibr	— — —				
21	P	Double-Drum Vibr	— — —				
22	Q	Other	Combination steel (Steel) drum and rubber tires				

	COMPACTOR DATA	First Lift	Second Lift	Third Lift	Fourth Lift
23	BREAKDOWN Roller Code (A-Q)	M	—	—	—
24	Coverages	— 4.	— —	— —	— —
25	INTERMEDIATE Roller Code (A-Q)	—	—	—	—
25	Coverages	— —	— —	— —	— —
27	FINAL Roller Code (A-Q)	Q	—	—	—
28	Coverages	— 2	— —	— —	— —
29	Air Temperature (°F)	— 65.	— — —	— — —	— — —
30	Compacted Thickness (in)	— 2 —	— — —	— — —	— — —
31	Curing Period (Days)	— 0 —	— — —	— — —	— — —

Surface mix was placed 1 month after the binder mix
 Road was open to traffic approximately 3 months after laying
 the surface mix.

Z. J. D. BRE

Date 3-7-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 14 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>6</u> <u>0</u>]
--	---

1. NUCLEAR DENSITY MEASUREMENTS

1/4

LAYER TYPE	Surface Course	Surface Friction Layer
Measurement Method (A, B, C) ¹	<u>A</u>	—
Number of Measurements	<u>12</u>	—
Average (pcf)	<u>135.4</u>	—
Maximum (pcf)	<u>138.0</u>	—
Minimum (pcf)	<u>131.7</u>	—
Standard Deviation (pcf)	<u>1.9</u>	—
Layer Number	<u>6</u>	—

(WD)

¹Measurement Method Backscatter... A Direct Transmission... B Air Gap . C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE

Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER

#24

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER

[-----]

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION

KJ LAW - Nov, MI

6. PROFILOGRAPH MEASUREMENTS

Model # - T6600

Profilograph Type California... 1 Rainhart... 2 Other ... 3

[3]

Profile Index (in/mile)

[-----]

Interpretation Method Manual.. 1 Mechanical.. 2 Computer 3

[3]

Height of Blanking Band (in)

[-----]

Cutoff Height (in)

[-----]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO)

[NO]

Z. J. D.

2000-02-22

BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>6</u> <u>9</u>]
--	--	---

LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
2+0 0	— <u>0</u> — <u>3</u> <u>6</u> — <u>7</u> <u>2</u> — <u>1</u> <u>0</u> <u>8</u> — <u>1</u> <u>4</u> <u>4</u>	— — — — — — — — — —	— <u>6</u> <u>8</u> — <u>6</u> <u>5</u> — <u>6</u> <u>.6</u> — <u>6</u> <u>.7</u> — <u>7</u> <u>1</u>	— — — — — — — — — —
0+5 0	— <u>0</u> — <u>3</u> <u>6</u> — <u>7</u> <u>2</u> — <u>1</u> <u>0</u> <u>8</u> — <u>1</u> <u>4</u> <u>4</u>	— — — — — — — — — —	— <u>6</u> <u>.8</u> — <u>7</u> <u>1</u> — <u>7</u> <u>0</u> — <u>7</u> <u>.2</u> — <u>7</u> <u>7</u>	— — — — — — — — — —
1-0 0	— <u>0</u> — <u>3</u> <u>6</u> — <u>7</u> <u>2</u> — <u>1</u> <u>0</u> <u>8</u> — <u>1</u> <u>4</u> <u>4</u>	— — — — — — — — — —	— <u>7</u> <u>4</u> — <u>7</u> <u>4</u> — <u>7</u> <u>7</u> — <u>8</u> <u>3</u> — <u>8</u> <u>4</u>	— — — — — — — — — —
1-5 0	— <u>0</u> — <u>3</u> <u>6</u> — <u>7</u> <u>2</u> — <u>1</u> <u>0</u> <u>8</u> — <u>1</u> <u>4</u> <u>4</u>	— — — — — — — — — —	— <u>7</u> <u>3</u> — <u>7</u> <u>1</u> — <u>7</u> <u>3</u> — <u>2</u> <u>7</u> — <u>7</u> <u>8</u>	— — — — — — — — — —
2-0 0	— <u>0</u> — <u>3</u> <u>6</u> — <u>7</u> <u>2</u> — <u>1</u> <u>0</u> <u>8</u> — <u>1</u> <u>4</u> <u>4</u>	— — — — — — — — — —	— <u>7</u> <u>1</u> — <u>7</u> <u>3</u> — <u>7</u> <u>3</u> — <u>7</u> <u>2</u> — <u>7</u> <u>9</u>	— — — — — — — — — —
2-5 0	— <u>0</u> — <u>3</u> <u>6</u> — <u>7</u> <u>2</u> — <u>1</u> <u>0</u> <u>8</u> — <u>1</u> <u>4</u> <u>4</u>	— — — — — — — — — —	— <u>7</u> <u>7</u> — <u>7</u> <u>3</u> — <u>7</u> <u>4</u> — <u>7</u> <u>9</u> — <u>8</u> <u>2</u>	— — — — — — — — — —
3-0 0	— <u>0</u> — <u>3</u> <u>6</u> — <u>7</u> <u>2</u> — <u>1</u> <u>0</u> <u>8</u> — <u>1</u> <u>4</u> <u>4</u>	— — — — — — — — — —	— <u>8</u> <u>2</u> — <u>8</u> <u>2</u> — <u>8</u> <u>0</u> — <u>8</u> <u>4</u> — <u>8</u> <u>6</u>	— — — — — — — — — —
LAYER NUMBER ¹		— —	— <u>0</u> <u>6</u>	— —

¹ from Sheet 4

7/10

..... BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 15 LAYER THICKNESS MEASUREMENTS			* STATE CODE [0 5] * SPS PROJECT CODE [8 9] * TEST SECTION NO. [0 0]
--	--	--	---

LAYER THICKNESS MEASUREMENTS (inch)

SHEET ____ OF ____

STATION NUMBER	OFFSET (inch)	N/A DENSE GRADED AGGREGATE BASE	SURFACE AND BINDER	N/A SURFACE FRICTION LAYER
3+5 0	- 3 0 - 3 6 - 7 2 - 8 8 1 4 4	— — — — —	1 0 6 1 0 2 1 0 0 1 0 1 1 0 0	— — — — —
4+0 0	- 3 0 - 3 6 - 7 2 - 8 8 1 4 4	— — — — —	9 5 9 2 9 5 9 5 9 6	— — — — —
4+5 0	- 3 0 - 3 6 - 7 2 - 8 8 1 4 4	— — — — —	7 4 7 0 7 1 7 1 7 9	— — — — —
5-0 0	- 3 0 - 3 6 - 7 2 - 8 8 1 4 4	— — — — —	8 5 8 2 8 4 8 4 8 9	— — — — —
— — —	— — —	— — —	— — —	— — —
— — —	— — —	— — —	— — —	— — —
— — —	— — —	— — —	— — —	— — —
LAYER NUMBER	— —	— —	0 6	— —

from Sheet 4

Z. J. Danner BRE

DATE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 16 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [6 0]
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Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

placed
~~ReCut a section of bad mix from Sta. 1066+25 to
Sta. 1067+50 in driving lane. (corner area)~~

Level Up ~ 1.5" Uncompacted

Binder ~ 3 25" uncompacte

2 vibrated passes and 2 static passes with the
Vibrroller type C766B

2 - 3 passes with the pneumatic roller

A pass is considered up and back. It

Used a Lee Boy 400 (miniroller) on the shoulders

ZMA

..... RPF

DTE 3/10/97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 20 PRE-OVERLAY SURFACE PREPARATION SKETCH	* STATE CODE [<u>05</u>] * SPS PROJECT CODE [<u>09</u>] * TEST SECTION NO. [<u>60</u>]
--	---

no sketch available

PREPARER Terry W. Hansen EMPLOYER BRE DATE 3-10-97

August 1995

SPS-9A CONSTRUCTION DATA SHEET 24 ASPHALT PATCHING OF PCC PAVEMENTS	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
---	--

[0 5]
[0 9]
[6 0]

1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) [____-____-____]
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) [____-____-____]
3. PRIMARY DISTRESS OCCURRENCE PATCHED (code from Table A 22)
Other (Specify) _____
4. SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____
5. SUMMARY OF PATCHING NUMBER TOTAL AREA (SQ. ft)

Surface Only	[____]	[____-____-____]
Surface and partial base replacement	[____]	[____-____-____]
Full depth	[____]	[____-____-____]
6. METHOD USED TO DETERMINE LOCATION AND SIZES OF PATCHES [____]

Deflection... 1	Coring. . 2	Visual. . . 3	Other 4
(specify) _____			
7. METHOD USED TO FORM PATCH BOUNDARIES [____]

None	1 Saw Cut .	2 Air Hammer.	3	Cold Milling	4
Other .	5 (Specify)				
8. COMPACTION EQUIPMENT [____]

None .	1 Pneumatic roller .	2 Vibratory Plate Compactor	3
Vibratory Roller	4 Steel Wheel Roller	5 Truck Tire ..	6
Hand Tools ..	7 Other	8 (Specify)	
9. PATCH MATERIAL [____]

Hot Mix Asphalt Concrete	1 Plant Mix with Cutback Asphalt, Cold Laid	2
Plant Mix with Emulsified Asphalt, Cold Laid	3 Road Mix with Cutback Asphalt	4
Road Mix with Emulsified Asphalt	5 Portland Cement Concrete	6 Other
(Specify)	7	
10. MINIMUM TIME FROM MATERIAL PLACEMENT TO OPENING TO TRAFFIC (Hrs) [____]
11. MAXIMUM MATERIAL TEMPERATURE FOR TRAFFIC OPENING (if used) (°F) [____-____]
12. AIR TEMPERATURE DURING PLACEMENT OPERATIONS [____]

High Temperature (°F)	[____]
Low Temperature (°F)	[____]
13. PREDOMINATE ROAD SURFACE MOISTURE CONDITION DURING PLACEMENT OPERATIONS [____]

Dry..... 1	Moist . . . 2	Wet . . . 3
------------	---------------	-------------

No Patching - All rabbledized

PREPARER

hans W. Hansen

EMPLOYER

BRE

DATE 3-10-97

SPS-9A CONSTRUCTION DATA SHEET 25 PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE 05 * SPS PROJECT CODE D9 * TEST SECTION NO 60
--	--

1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year) _____
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year) _____
3. PRIMARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____
4. SECONDARY DISTRESS OCCURRENCE PATCHED (code from Table A.22)
Other (Specify) _____
5. PATCHES
Total Square (ft) _____
Number _____
Average Depth, (inch) _____
6. METHOD USED FOR PATCH BOUNDARY DETERMINATION
Visual... 1 Ball Peen Hammer, Steel Rod, Chain or Equivalent.. 2
Delam-Tech... 3 Other (Specify) ... 4 _____
7. METHOD USED TO CUT BOUNDARIES
Diamond Blade Saw. 1 Carbide Blade Saw 2 None. 3 Air Hammer... 4
Cold Milling .. 5 Other (Specify) 6 _____
8. METHOD USED TO BREAK UP AND/OR REMOVE DETERIORATED CONCRETE
Jackhammer . 1 Cold Milling 2
Other (Specify) . 3 _____
9. METHOD FOR FINAL CLEANING OF PATCH AREA
None 1 Sandblasting 2 Waterblasting 3
Other (Specify) 4 _____

No Patching - All Rubblized

----- Z 11A

REB BRE

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 26
PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES, CONTINUED

- | | | | | |
|----|--|-----------------------|-------------------|--|
| 1. | PATCH MATERIAL USED | | | |
| | Portland Cement Concrete... 1 | Polymer Concrete... 2 | Epoxy Mortar .. 3 | |
| | Other (Specify) .. 5 | | | |
| 2. | BONDING AGENT | | | |
| | None... 1 | Cement Grout... 2 | Epoxy Resin... 3 | |
| | Other (Specify) .. 4 | | | |
| 3. | MIKTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.) | | | |
| | Coarse Aggregate | | | |
| | Fine Aggregate | | | |
| | Cement | | | |
| | Water | | | |
| 4. | MAXIMUM SIZE OF COARSE AGGREGATE, (inch) | | | |
| 5. | CEMENT TYPE USED
(See Cement Type Codes, Tables A.11) | | | |
| 6. | AIR CONTENT, PERCENT BY VOLUME | | | |
| | Mean | [] [] | | |
| | Range. | Min [] [] | | |
| | | Max [] [] | | |
| 7. | ADMIXTURES
(See Cement Additive Codes, Table A.12) | | | |
| 8. | SLUMP, (inch) | | | |
| | Mean | [] [] | | |
| | Range. | Min [] [] | | |
| | | Max [] [] | | |
| 9. | COMPRESSIVE STRENGTH OF PATCH MATERIAL, (psi) | | | |
| | Curing Time Days | | | |
| | If Unavailable, and Other Strength Test Conducted,
Alternate Test | [] | | |
| | Type of Loading [] | | | |
| | Age, Days []. | | | |
| | Strength, (psi) [] [] | | | |

No Patching - All Rubblelized

210

REF

3-18-97

SPS-9A CONSTRUCTION DATA SHEET 27 PARTIAL DEPTH PATCHING FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [<u>O</u> <u>5</u>] * SPS PROJECT CODE [<u>O</u> <u>9</u>] * TEST SECTION NO. [<u>6</u> <u>0</u>]
---	---

1. CURING METHOD None... 1 Membrane Curing Compound... 2 Burlap Curing Blankets. 3 Waterproof Paper Blankets .. 4 White Polyethylene Sheeting... 5 Burlap-Polyethylene Blankets. . 6 Insulating Layers... 7 Cotton Mat Curing... 8 Hay . 9 Other (Specify)... 10	METHOD 1 <input type="checkbox"/> METHOD 2 <input type="checkbox"/>
2 APPROXIMATE TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS <input type="checkbox"/>	
3 AMBIENT CONDITIONS AT TIME OF PATCHING	
Air Temperature °F <input type="checkbox"/>	
Surface Moisture - Dry = 1, Wet = 2 <input type="checkbox"/>	
4. METHOD OF CONSOLIDATING MATERIALS	
Vibrators.. 1 Vibrating Screeds.. 2 Troweling... 3	
Rodding/Tamping... 4 Rolling.. 5	
Other (Specify)... 6	
5 FINISHING METHOD	
Screeeding.. 1 Hand-Troweling. . 2 Machine-Troweling 3	
Other (Specify)... 4	
6. JOINT FORMING METHOD	
Shoulder <input type="checkbox"/>	
Transverse <input type="checkbox"/>	
Longitudinal <input type="checkbox"/>	
None 1 Polyethylene Strip Insert... 2 Styrofoam Insert .. 3	
Fiberboard Insert... 4 Sawing. 5 Forms. . 6	
Other (Specify)... 7	

No Patching - All Rubbelized



RNF

3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 28 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>6</u> <u>0</u>]
--	--	---

1. DATE JOINT SEALANT OPERATIONS BEGAN (Month-Day-Year) [_____]
2. DATE JOINT SEALANT OPERATIONS COMPLETED (Month-Day-Year) [_____]
3. METHOD OF REMOVING OLD SEALANT
Not Removed... 1 Joint Plow - V-Shaped... 2 Joint Plow - Rectangular. 3
High Pressure Water Blasting 4 Diamond Blade Saw 5
Carbide Blade Saw 6 Pull-Out of Old Compression Sealant... 7
Not Previously Sealed. . 8
Other (Specify)... 9 _____
4. NEW SEALANT RESERVOIR DIMENSIONS, (inch)
Width [_____] .
Depth (From Top of Slab to Top of Backer Rod or Tape) [_____.____]
5. BOND BREAKER UNDER SEALANT
None... 1 Nonreactive Adhesive Backed Tape... 2 Backer Rod... 3
Other (Specify)... 4 _____
6. WERE JOINT SIDEWALLS REFACED?
No 1 Yes - One-Blade . 2 Yes - Two-Blade.. 3
Other (Specify)... 4 _____
7. CLEANING OF SIDEWALLS
None 1 Air Blast . 2 Sand Blast .. 3 Water Blast . 4
Other (Specify). 5 _____

N/A

→ 210 ← --- →

SPS-9A CONSTRUCTION DATA SHEET 29 JOINT RESEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <u>2</u> * SPS PROJECT CODE <u>5</u> * TEST SECTION NO <u>6</u> <u>9</u>
---	--

1. TYPE OF CONTRACTION JOINT SEALANT
(AASHTO OR ASTM SPECIFICATIONS)

- D1850 (ASTM) Concrete Joint Sealer, Cold-Application Type . 1
 D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type . 2
 D3406 (ASTM) - M282 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
 for PCC Pavements. 3
 D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
 Asphalt Pavements... 4
 D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges 5
 D2628 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
 Pavements 6
 Other (Describe - if Silicone Material is Used Federal Spec. TT-S-001543A,
 Georgia D.O.T. Spec 833 06 or Equal Applies .. 7

Manufacturer Information on Type of Pressure Relief Joint Sealant

Manufacturer Name
 Manufacturer Sealant Name

2. AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
BELOW PAVEMENT SURFACE, (inches)

3. ARE EXPANSION JOINTS SEALED DIFFERENTLY THAN CONTRACTION JOINTS?

Yes... 1 No . 2

If Yes, Enter the code from Item 1, or describe below

Other

4. TOTAL LINEAR FEET OF JOINTS SEALED
 Transverse Joints

Longitudinal Joints

NOTE IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 26 AND 27 FOR
 EACH RECORDING THEIR LENGTHS IN ITEM NO 4.

N/A

Z H A

RPF

3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 30 CRACK SEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>6</u> <u>0</u>]
--	---

1. DATE CRACK SEALING OPERATIONS BEGAN (Month-Day-Year) [- - - - -]
2. DATE CRACK SEALING OPERATIONS COMPLETED (Month-Day-Year) [- - - - -]
3. NEW SEALANT RESERVOIR DIMENSIONS, Inches If Used
Width [- -]
Depth (From Top of Slab to Top of Backer Rod or Tape) [- -]
4. BOND BREAKER UNDER SEALANT, IF USED
None... 1 Nonreactive Adhesive Backed Tape... 2 Backer Rod... 3
Other (Specify) ... 4
5. CLEANING OF CRACKS
None... 1 Routing... 2 Air Blast... 3 Steel Wire Brush... 4
Brooming... 5 Other (Specify)... 6

No Crack Sealing - Rubbelization then Overlay

Z 7/11

- - - - RRF

- - - Z-1n-97

SPS-9A CONSTRUCTION DATA SHEET 31 CRACK SEALING DATA FOR PAVEMENTS WITH PORTRLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE [<u>9</u> <u>5</u>] * SPS PROJECT CODE [<u>9</u> <u>9</u>] * TEST SECTION NO. [<u>9</u> <u>0</u>]
---	--

1. TYPE OF SEALANT
(AASHTO OR ASTM SPECIFICATIONS) []
- D1350 (ASTM) Concrete Joint Sealer, Cold-Application Type... 1
 D1190 (ASTM) - M173 (AASHTO) Concrete Joint Sealer, Hot-Poured Elastic Type. 2
 D3406 (ASTM) - M292 (AASHTO) Joint Sealants, Hot-Poured, Elastomeric-Type,
 for PCC Pavements .. 3
 D3405 (ASTM) - M301 (AASHTO) Joint Sealants, Hot-Poured for Concrete and
 Asphalt Pavements. . 4
 D3542 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Bridges 5
 D2523 (ASTM) Preformed Polychloroprene Elastomeric Joint Seals for Concrete
 Pavements .. 6
 Other (Describe - if Silicone Material is Used Federal Spec TT-S-001543A,
 Georgia D O.T. Spec 833 06, or Equal Applies.. 7

Manufacturer Information on Type of Pressure Relief Crack Sealant

Manufacturer Name []
 Manufacturer Sealant Name []

2. AVERAGE DEPTH OF TOP OF SEALANT PLACEMENT
Below Pavement surface, (inch) []
3. TOTAL LINEAR FEET OF CRACKS SEALED []

NOTE IF DIFFERENT MATERIALS OR METHODS ARE USED REPEAT SHEETS 28 AND 29 FOR
EACH RECORDING THEIR LENGTHS IN ITEM NO. 3.

No Sealing - Rubbelization then Overlay



R.A.F

DATE 3-10-87.

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 32 DIAMOND GRINDING FOR PORTLAND CEMENT CONCRETE PAVEMENT SURFACES		* STATE CODE [<u>0</u> <u>5</u>] * SPS PROJECT CODE [<u>0</u> <u>9</u>] * TEST SECTION NO. [<u>6</u> <u>2</u>]
1.	DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year)	[_____-_____-____]
2.	DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year)	[_____-_____-____]
3.	REASON FOR GRINDING Elimination of Faulting . 1 Improve Skid Resistance . 3 Restoration of Transverse Drainage Slope . 4 Other (Specify) ... 5	[____]
4.	AVERAGE DEPTH OF CUT, (inch)	[____]
5.	CUTTING HEAD WIDTH, (inch)	[____]
6.	AVERAGE GROOVE WIDTH, (inch)	[__.__]
7.	AVERAGE SPACING BETWEEN BLADES, (inch)	[__.__]

No Grinding - Rubbletization then overlay

Z.W.D. RAE DATE 3-10-97

SPS-9A CONSTRUCTION DATA		
SHEET 33		
FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		
* STATE CODE	[0 5]	
* SPS PROJECT CODE	[0 2]	
* TEST SECTION NO	[6 0]	
1. DATE PATCHING OPERATIONS BEGAN (Month-Day-Year)	[]	
2. DATE PATCHING OPERATIONS COMPLETED (Month-Day-Year)	[]	
3. PRIMARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB (See Table A.22 for Type Codes) Other (Specify) _____	[]	
4. SECONDARY DISTRESS OCCURRENCE PATCHED OR REPLACED WITH NEW SLAB (See Table A.22 for Type Codes) Other (Specify) _____	[]	
5. PATCHES	NUMBER	SQ. FEET
SLAB ONLY	[]	[]
SLAB AND BASE	[]	[]
6. PATCH MATERIAL USED		[]
Portland Cement Concrete... 1	Polymer Concrete.. 2	Epoxy Mortar .. 3
Other (Specify)... 4		
7. SLABS REPLACED	NUMBER	SQ. FEET
SLAB ONLY	[]	[]
SLAB AND BASE	[]	[]
8. METHOD FOR PATCH BOUNDARY DETERMINATION		[]
Visual. . 1 Coring . 2 Deflection... 3		
State Standard or Specification. 4		
Other (Specify)... 5		
9. CUTTING INSTRUMENT		[]
Diamond Blade Saw 1 Carbide Blade Saw... 2 Wheel Saw . 3		
Air Hammer... 4		
Other (Specify)... 5		

Rubbleized then Overlay

270

RECORDED RCE

3-10-97

SPS-9A CONSTRUCTION DATA SHEET 34		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		

1. SECURING LOAD TRANSFER DEVICES
None.. 1 Grout Filler... 2 Epoxy filler.. 3 _____ []
Other. . 4 _____
2. REINFORCING STEEL PLACED IN PATCH
No . 1 Yes .. 2 _____ []
- TEMPERATURE STEEL
Transverse Longitudinal
3. REBAR NUMBER _____ [] _____ []
4. BAR LENGTHS, (inch) _____ [] _____ []
5. BAR SPACING, (inch) _____ [] _____ []
- Dowel Bars Tie Bars
6. REBAR NUMBER _____ [] _____ []
7. BAR LENGTHS, (inch) _____ [] _____ []
8. BAR SPACING, (inch) _____ [] _____ []
9. DOWEL COATINGS
None .. 1 Paint and/or Grease. 2 Plastic... 3 _____ []
Monel 4 Stainless Steel 5 Epoxy ... 6
Other (Specify) . 7 _____
10. NUMBER OF SAW CUTS PER PATCH (If Sawed) _____ []
11. DEPTH OF TYPICAL BOUNDARY SAW CUT, (inch) _____ []
12. CONCRETE BREAKUP
None... 1 Pneumatic Air Hammer... 2 Gravity Drop Hammer . 3 _____ []
Sawing 4 _____
Other (Specify) . 5 _____
13. REMOVAL OF CONCRETE
Concrete Breakup and Cleanout . 1 Lift Out Intact Slab Section 2 _____ []
Other (Specify)... 3 _____

*N/A**Z 110**----- RAE**DATE 3-10-97*

SPS-9A CONSTRUCTION DATA SHEET 35 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED	* STATE CODE <input type="text" value="0 5"/> * SPS PROJECT CODE <input type="text" value="0 2"/> * TEST SECTION NO. <input type="text" value="6 0"/>
--	---

1. METHOD OF REINFORCING STEEL PLACEMENT
Chairs... 1 Between Layers of Concrete .. 2
2. MIXTURE DESIGN FOR PATCH MATERIAL, (lbs/cu yd.)
Coarse Aggregate
Fine Aggregate
Cement
Water
3. CEMENT TYPE USED
(See Type Codes, Tables A 11)
4. AIR CONTENT, PERCENT BY VOLUME
Mean
Range to
5. ADMIXTURES
(See Cement Additive Codes, Table 12)
6. SLUMP, (inch)
Mean
Range to
7. FLEXURAL STRENGTH (MODULUS OF RUPTURE), psi
(Based on 3rd Point Loading) Curing Time, Days
If Unavailable, and Other Strength Test Conducted,
Enter Alternate Test
Type of Loading
Age, Days Strength, psi
 LOW
 HIGH
8. AMBIENT CONDITIONS AT TIME OF PATCHING
Air Temperature °F
Surface Moisture - Dry = 1, Wet = 2
9. MAXIMUM SIZE OF COARSE AGGREGATE, (inch)
10. CONSOLIDATION OF MATERIALS
Internal Vibrators... 1 Vibrating Screeds . 2 Troweling 3
Rolling .. 4 Tamping . 5
Other (Specify) ... 6
12. FINISHING
Screeeding. . 1 Hand-Troweling .. 2 Machine-Troweling . 3
Other (Specify) 4

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DPC

--- R-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 36 FULL DEPTH REPAIR DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		* STATE CODE * SPS PROJECT CODE * TEST SECTION NO [<u>0</u> <u>5</u>] [<u>0</u> <u>9</u>] [<u>6</u> <u>0</u>]
---	--	--

- | 1. JOINT FORMING METHOD | SHOULDER | TRANSVERSE | LONGITUDINAL |
|--|--|---------------|---------------|
| None. 1 Polyethylene Strip Insert... 2 Styrofoam Insert. . 3
Fiberglass Insert 4 Sawing 5 Forms . 6
Other (Specify). . 7 | [<u> </u>] | [<u> </u>] | [<u> </u>] |
| 2. WAS BOND BREAKER USED BETWEEN ADJACENT LANES?
Yes .. 1 No . 2 | [<u> </u>] | | |
| 3. CURING METHOD | METHOD 1 [<u> </u>]
METHOD 2 [<u> </u>] | | |
| None. 1 Membrane Curing Compound.. 2 Burlap Curing Blankets 3
Waterproof Paper Blankets... 4 White Polyethylene Sheeting... 5
Burlap-Polyethylene Blankets... 6 Insulating Layers . 7
Cotton Mat Curing... 8 Hay... 9
Other (Specify) . 10 | [<u> </u>] | | |
| 4. APPROXIMATE TYPICAL TIME BETWEEN PATCHING AND OPENING TO TRAFFIC, HOURS | [<u> </u>] | | |
| 5. TYPE OF TRANSVERSE JOINTS IN PATCHES
OR SLABS | [<u> </u>] | | |
| None 1 All Expansion Joints 2 All Contraction Joints .. 3
Mixture of Expansion and Contraction Joints. 4 | [<u> </u>] | | |
| 6. WERE OLD JOINTS MATCHED?
Yes... 1 No... 2 | [<u> </u>] | | |

N/A

----- T WD ----- RPE ----- DATE 3-10-87 .

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 37 LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.
	[2 5] [0 9] [6 0]

1. DATE LOAD TRANSFER RESTORATION BEGAN (Month-Day-Year) [_____]
2. DATE LOAD TRANSFER RESTORATION COMPLETED (Month-Day-Year) [_____]
3. NUMBER OF JOINTS IN TEST SECTION [_____]
4. NUMBER OF JOINT LOAD TRANSFER RESTORATION LOCATIONS [_____]
5. NUMBER OF DEVICES PER JOINT [_____]
6. LOCATION OF DOWELS OR SHEAR DEVICES (inch)
 (DISTANCE FROM THE OUTER
 LANE EDGE TO THE CENTER
 OF EACH DEVICE)
- 1st [_____]
 2nd [_____]
 3rd [_____]
 4th [_____]
 5th [_____]
 6th [_____]
 7th [_____]
 8th [_____]
 9th [_____]
 10th [_____]
 11th [_____]
 12th [_____]
 13th [_____]
 14th [_____]
7. DIAMETER OF RETROFIT DOWEL BARS. (inch) [_____]
8. MATERIAL USED TO BACKFILL SLOT/CORE HOLE
 Cement Based Grout... 1 Polymer Concrete... 2
 Epoxy Resin Grout... 3
 Other (Specify)... 4 _____ [_____]
9. BONDING AGENT USED BETWEEN EXISTING PCC AND BACKFILL MATERIAL
 None... 1 Epoxy... 2 Cement/Water . 3
 Other (Specify)... 4 _____ [_____]

N/A

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----- 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA
SHEET 38
LOAD TRANSFER RESTORATION DATA FOR PAVEMENTS WITH
PORTLAND CEMENT CONCRETE SURFACES, CONTINUED

1. LOAD TRANSFER EFFICIENCY BEFORE AND AFTER RESTORATION

2. DATE OF LOAD TRANSFER EFFICIENCY TESTS
BEFORE RESTORATION (Month-Day-Year)
AFTER RESTORATION (Month-Day-Year)

[1 - - - - -]

W/A

-210-

2-1927 BEE

3-10- 97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 39 UNDERSEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES	* STATE CODE * SPS PROJECT CODE * TEST SECTION NO.	[<u>6</u> <u>5</u>] [<u>6</u> <u>9</u>] [<u>6</u> <u>0</u>]
---	--	---

1. DATE UNDERSEALING BEGAN (Month-Day-Year) _____
2. DATE UNDERSEALING COMPLETED (Month-Day-Year) _____
3. TYPE OF MIXTURE USED IN SUBSEALING
Cement-Loam Top Soil Slurry... 1 Cement-Limestone Dust Slurry... 2
Cement-Pozzolan Slurry... 3 Cement-Fine Sand Slurry... 4
Other (Specify)... 5 _____

MIX DESIGN OF PORTLAND CEMENT GROUT (Items 4. to 8.)

4. CEMENT TYPE (SEE CEMENT TYPE CODES, TABLE A.11) _____
5. CEMENT TO SAND RATIO (BY WEIGHT) _____
6. WATER/CEMENT RATIO (BY WEIGHT) _____
7. ADDITIVE TYPE (SEE TABLE A.12) _____
8. AMOUNT OF ADDITIVE (BY PERCENT OF CEMENT WEIGHT) _____
9. FLUIDITY OF PORTLAND CEMENT GROUT
(Flow Cone Method ASTM C939) (SEC) _____
10. CUBE COMPRESSIVE STRENGTH OF PORTLAND CEMENT GROUT, (psi) _____
11. CURING PERIOD FOR PORTLAND CEMENT GROUT (DAYS) _____
12. DETERMINATION OF AREA TO BE UNDERSEALED
Blanket Coverage... 1 Deflection Data... 2
Visual Signs of Pumping... 3
Other (Specify)... 4 _____

N/A

Z 10

R.R.F

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET 40 UNDERSEALING DATA FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES, CONTINUED		* STATE CODE [0 5] * SPS PROJECT CODE [0 9] * TEST SECTION NO. [6 0]
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1. DEPTH OF UNDERSEALING HOLE FROM TOP OF SLAB (inch) [✓ - - -]
2. MAXIMUM ALLOWABLE PUMPING PRESSURE (Gauge at Plant) (psi) [- - -]
3. MAXIMUM SURGE PRESSURE (psi) [- - -]
4. SLABS IN TEST SECTION (JOINTED CONCRETE PAVEMENTS ONLY)
Total Number [- - -] Number Undersealed [- - -]
5. AVERAGE NUMBER OF HOLES PER SLAB UNDERSEALED (JCP Only) [- - -]
6. TYPICAL NUMBER OF UNDERSEALING HOLES NEAR JOINT OR CRACK (JCP Only) [- - -]
7. AVERAGE VOLUME OF MATERIAL PUMPED PER HOLE (Cubic Feet) [- - -]
8. MONITORING OF LIFT
Deflection Device (e.g. Benkelman Beam) ... 1 Maximum Pumping Time... 2
Appearance of Material in Adjacent Joints or Cracks... 3
Other (Specify) ... 4 _____
9. TYPICAL TIME BETWEEN UNDERSEALING AND REOPENING TO TRAFFIC (HOURS) [- - -]
11. WERE DEFLECTION MEASUREMENTS TAKEN BEFORE AND AFTER UNDERSEALING?
Yes... 1 No... 2
BEFORE UNDERSEALING [-]
AFTER UNDERSEALING [-]
12. TIME OF DAY WHEN DEFLECTION MEASUREMENTS WERE CONDUCTED (HOURS)
STARTING TIME ENDING TIME
BEFORE UNDERSEALING [- - - -] [- - - -]
AFTER UNDERSEALING [- - - -] [- - - -]

N/A

T. D. BRE

DATE 3-10-97

April 1991 (Heading revised October 1992)

SPS-9A CONSTRUCTION DATA SHEET #1 SUBDRAINAGE RETROFIT FOR PAVEMENTS WITH PORTLAND CEMENT CONCRETE SURFACES		* STATE CODE [<u>O</u> <u>S</u>] * SPS PROJECT CODE [<u>O</u> <u>9</u>] * TEST SECTION NO [<u>6</u> <u>0</u>]
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1. DATE SUBDRAINAGE PLACEMENT BEGAN (Month-Day-Year) [1 0-0 1-9 6]
2. DATE SUBDRAINAGE PLACEMENT COMPLETED (Month-Day-Year) [1 0-0 9-9 6]
3. TYPE OF DRAINAGE PIPE [6]
 - Clay Tile . 1 Concrete Tile . 2 Vitrified Clay . 3
 - Perforated Plastic Bituminous Fiber . 4 Perforated Corrugated Metal. . 5
 - Corrugated Plastic Tubing . 6 Drainage Mat. . 7
 - Other (Specify) . 8 _____
4. DIAMETER OF PIPE (inch) [4 0]
5. DEPTH OF PIPE BELOW TOP OF PAVEMENT SURFACE (inch) [2 4.1]
6. HORIZONTAL PLACEMENT OF PIPE FROM OUTER EDGE OF PAVEMENT (inch) [9 0]
7. TYPE OF PRIMARY FILTER USED [3]
 - Graded Aggregate. . 1 Uniformly Graded Aggregate (One Size) .. 2
 - Woven Fabric. . 3 Non-Woven Fabric... 4 Porous PCC... 5
 - Porous Bituminous Concrete... 6
 - Other (Specify) ... 7 _____
8. MAXIMUM PARTICLE SIZE OF PRIMARY FILTER MATERIAL (inch) [1 5]
9. GRADATION OF PRIMARY FILTER MATERIAL

% Passing #4 Sieve [<u> </u> <u> </u> <u> </u>]	% Passing #40 Sieve [<u> </u> <u> </u> <u> </u>]
% Passing #10 Sieve [<u> </u> <u> </u> . <u> </u>]	% Passing #100 Sieve [<u> </u> <u> </u> <u> </u>]
10. PERMEABILITY OF PRIMARY FILTER MATERIAL (feet/day) []
11. TYPE AND LOCATION OF SECONDARY FILTER MATERIAL []
 - Fabric Encapsulating the Primary Filter Material. . 1
 - Fabric Encapsulating the Drainage Pipe. . 2
 - Other (Specify) . 3 _____
12. AVERAGE OUTLET INTERVAL (ft) [2 5 0]
13. PRIMARY PURPOSE OF SUBDRAINAGE INSTALLATION [1]
 - Remove Free Water From Pavement Layers .. 1
 - Cut Off Side-Hill/Through Hill Seepage. . 2
 - Lower Water Table . 3
 - Other (Specify) . 4 _____

K.H.D. R.A.F

DATE 3-10-87

APPENDIX F

PHOTOGRAPHS

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3 Existing Conditions of US-65 Near Section 050902	F.3
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5 Resonant Pavement Breaker for Rubblization of Original Jointed Concrete Slabs ..	F.4
6 Tampo RS-28 Roller for Compaction of Rubblized Slab	F.4
7 Blaw-Knox Paver	F.5
8 Sakai (Final) Roller	F.5
9 Hypac (Breakdown) Roller	F.6
10 Acker Core Rig with 6" Core Barrel Attached	F.6



Photo 1. Falling Weight Deflectometer Testing on Section 050903



Photo 2. Falling Weight Deflectometer Testing on Section 050902



Photo 3. Existing Conditions of US-65 Near Section 050902



Photo 4. Asphalt Plant



Photo 5. Resonant Pavement Breaker for Rubblization of
Original Jointed Concrete Slabs



Photo 6. Tampo RS-28 Roller for Compaction of Rubblized Slab



Photo 7. Blaw-Knox Paver



Photo 8. Sakai (Final) Roller



Photo 9. Hypac (Breakdown) Roller



Photo 10. Acker Core Rig with 6" Core Barrel Attached